THE JOURNAL OF THE AMERICAN OSTEOPATHIC ASSOCIATION

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MILWAUKEE—JULY 24-28

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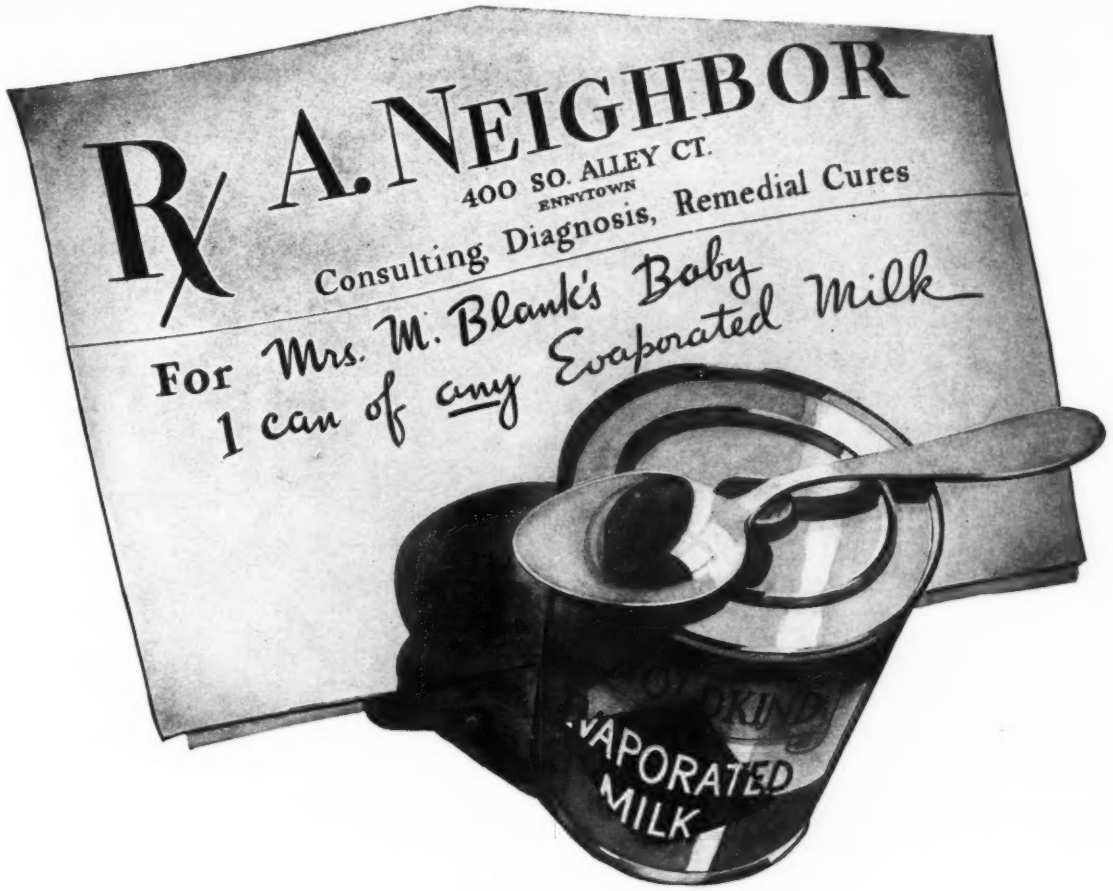

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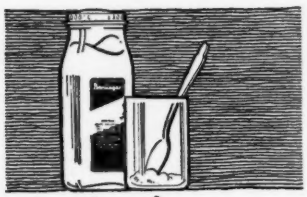
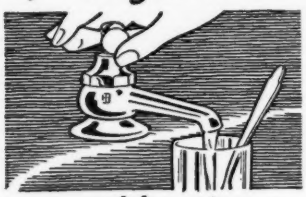
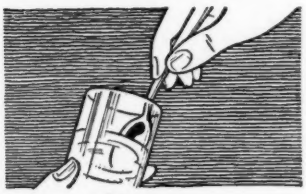


1– in glass . .



2– add water . .



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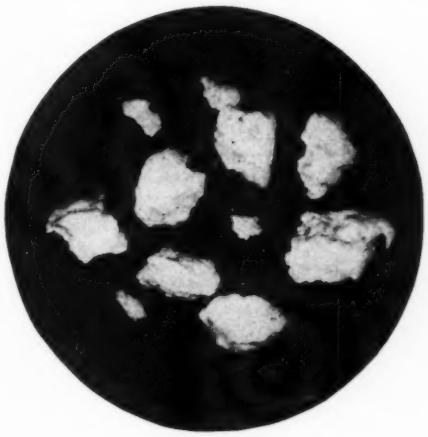

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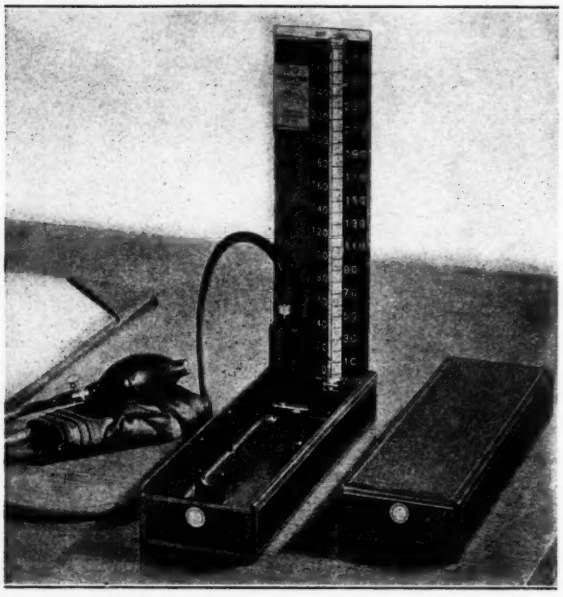

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EDITORIAL: Irradiated Milk

(Journal of the American Medical Association, Nov. 26, 1932)

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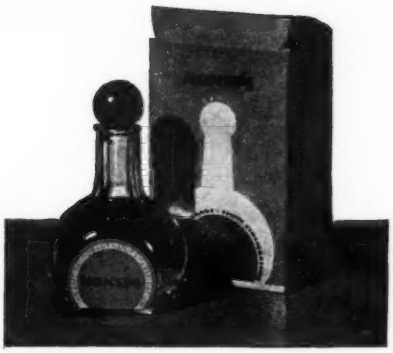

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1933
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The Journal of the American Osteopathic Association

PUBLISHED MONTHLY BY THE AMERICAN OSTEOPATHIC ASSOCIATION

Vol. 32, No. 8 | 430 N. Michigan Ave., Chicago, Ill. | April, 1933

Osteopathic Principles in the Light of Modern Science*

W. M. Pearson, A.B., B.Sc., D.O.
Cleveland

The aim of this paper is to show briefly: (1) That the osteopathic lesion constitutes a very definite accumulation of pathological entities; that it has a definite sequence in its formation, and that it is a problem to be unraveled.

(2) That this accumulation of pathology, characterized by the area of lesion, has within itself the physical-chemical forces necessary to alter the character of the nerve impulse in such a way that it may not be suitably conducted to, or interpreted by the receptor neurons, and that this profound effect has been considerably underestimated, as well as has the value of the removal of the lesion.

(3) That blood supply is of vastly more importance than is generally believed, and that the osteopathic lesion has the power through its effect upon the nerve impulse to alter the blood supply both quantitatively and qualitatively.

(4) That there is at present need for the indexing and cross indexing of all the world's scientific material, so that it can be made to bear upon the truthfulness of the osteopathic claim, and that this would not only preserve osteopathy as a science, but would also protect the profession from the absurd claims of those possessing personal economic desire within its own ranks—and from the hostile attacks of many political enemies.

CLINICAL EVIDENCE

The following clinical evidence is taken direct from the Supplement to the United States Daily of April 6, 1931, and is in turn a stenographic report of the proceedings of the Section on Medical Service of the White House Conference on Child Health and Protection held in Washington, D. C., February 19-21, 1931.

This material was censored before publication; it was not the product of people interested in personal gain or in the osteopathic system of therapeutics. It brings to our attention facts that are so in keeping with the osteopathic claim that one wonders whether we, as a profession, can keep up with the trend of the time toward manipulative and natural therapeutics.

It is well also to study the opening paragraph of this material so that the aim of the study and research can become evident.

Becoming convinced that the maintenance of good body mechanics and the correction of poor body mechanics are conducive to the health and well-being of children, *it has been important to find out whether good body mechanics once attained had a reasonable chance of being maintained.*** We have drawn up a long list of recommendations based on the knowledge.

Occasionally, we as a profession become self-satisfied as to the status of our Research Institute, and think that animal experimentation has settled the whole matter for us. Then we think further and hope that at some time true clinical research will become possible.

The following paragraphs of statistics from the Child Health Conference show that clinical evidence is available. This evidence presented is greater in scope than any we have, because the authoritative position of the predominating school of medicine in the direction of the health of school children gives them the opportunity to control such observations.

It is evidence such as the osteopathic profession would like to present; it is entirely osteopathic in character, and yet under the direction of allopathic research.

The clinical evidence was gathered over a period of years, and the report is not the thought of an enthusiastic moment—it is the evidence obtained from years of work, study, thought and tabulation.

How easy would it be for the nearly 200,000 members of the opposing school of practice to take the osteopathic concept, present it as something new and make it popular!

Such knowledge has been our basis of therapeutics from the beginning and yet this bulletin was distributed to the therapeutic world as something important and new.

The types of bodies classed below as C and D represent a type of disturbances that are true lesions which produce symptoms. No report ever pointed out more clearly, osteopathic opportunity. With 75 per cent of the children of the country exhibiting grades of body mechanics that are symptom-producing, there is no limit to the osteopathic field in either children or adults.

STATISTICS OF POOR BODY MECHANICS

To what extent is poor body mechanics prevalent today among the children of the United States?

*Read before the General Session of the American Osteopathic Association Convention, Detroit, 1932.

**Italics throughout this article are the author's.

Approximate statistics obtained from the examination of young and middle aged men during the universal draft of the late World War; *postural surveys made of the entering classes of Harvard College by Lee and Brown, and Cook at Yale, and by Thomas and Lindner at Smith;* numerous school surveys in different sections of the country have all been consistent with the findings of the Chelsea survey. This includes an interesting and intensive and rather complete survey of body mechanics covering a period of two years, among *2,200 children of both sexes varying in age from 5 to 18 years, made from 1923 to 1925,* under the auspices of the Children's Bureau of the Department of Labor in the Williams Public School of the City of Chelsea, Mass. It was made possible through the coöperation of Dr. Frank E. Parlin, superintendent of schools in Chelsea. We believe that this is the first completely reliable and impartial survey of the incidence of poor body mechanics among a sufficiently large group of school children. It is also the best index we have as to the results of special training observed over a two-year period. *It has changed opinion to conviction and impression to proof.* Over *80 per cent* of these children exhibited either C or D grades of body mechanics. Lee's and Brown's survey of the entering classes of Harvard *placed 80 per cent* of these young adults in these same C and D groups. *Cook's review of 2,200 students* at Yale confirmed these figures.

In a silhouettograph survey conducted by Mrs. Maude Lombard Knapp, in charge of the physical education of women in the California State Teachers' College at San Jose, *only one woman was found in the freshman class to exhibit a natural A grade posture and only 11 per cent were graded as B.*

On the evidence presented, *about 80 per cent of the children and young adults of the Nation exhibit poor body mechanics.* Stating it *conservatively, we may reasonably believe that 75 per cent or three fourths of the male and female youth of the United States exhibit grades of body mechanics which, according to the standards of the Subcommittee on Orthopedics and Body Mechanics, are imperfect.* This fact, impressive as it is, does not mean that 75 per cent of the male and female youth of the United States are in bad health because of their imperfect posture. We have already called attention to the fact that there are fortunately large margins of safety.

Certain individual pieces of evidence are elaborated upon, and show how the mechanical concept has permeated the thought of truly great men of science.

Opinions such as are quoted are truly scientific and authoritative; without these opinions, the committee would not have given attention to body mechanics to the extent evident in the published report.

Sculptors and painters have always recognized that not only the expression of a face but the poise of the body determined the impression of mental alertness and physical efficiency, or of depression of spirit and weakness of body. *Good body mechanics and poor body mechanics tell their stories even if the sculptured or painted figures are headless.* Snapshots of successfully competing athletes reveal good body mechanics even *at the end of their supreme effort.*

Professor William James, the psychologist, became convinced that the erect posture kept up the spirits and tended to banish fear, despondency and depressing thoughts; that bodily postures definitely influenced the emotions.

Neurasthenia and enteroptosis commonly go hand in hand. Enteroptosis goes hand in hand with poor body mechanics. Sir Arthur Keith has found in his anthropological studies that the acquirement of good posture tends to correct enteroptosis. The experimental studies of Mankell and Koenig amply confirm Sir Arthur's observations. [*Mackenzie*], *the anatomist, has said that if generalizations were to be made about the causes of human diseases, it would be along the line of failure of accommodation to the erect posture.*

Note the directness of the statements regarding body mechanics. Note in the following quotation the dates 1908 and 1910 as marking the discovery of the sacro-iliac joint and of Goldthwait's disease.

The definiteness of statement of these scientists should dispel from the mind of the trained technician any doubt as to the effect of the osteopathic lesion in producing visceral pathology.

Such statements are a challenge to the profession to advance and to keep up with the times in matters of therapeutic importance.

Goldthwait, in 1908, called attention to the "relation of posture to human efficiency and the influence of poise upon the support and function of the viscera."

In 1910, he and Brown again discussed "the cause of gastroptosis and enteroptosis with their possible importance as a causative factor in the rheumatoid diseases."

Garnett, in his studies of all his patients complaining of abdominal pain and tenderness, has found that these symptoms are located in the abdominal wall more commonly than in the abdominal viscera. He is convinced that failure to recognize this fact subjects many patients to needless and futile intra-abdominal, gynecological and urological operations. *He believes that the most common cause of parietal pain and tenderness, especially in individuals under 30 years of age, is excessive lumbar lordosis—one of the commonest manifestations of faulty body mechanics—from which arises irritation of the spinal nerves as they pass through the intervertebral foramina. He has found that pain and tenderness disappear with the correction of the excessive lordosis and the faulty body mechanics.*

A CHALLENGE

The five numbered paragraphs next to be quoted contain one of the most striking concentrations of the osteopathic concept that we have ever found in print.

The fact that they are not from an osteopathic source and yet so definitely show that the effects of the removal of regions of improper mechanics is beneficial, is indeed a challenge to the osteopathic profession to assert itself and develop its own science.

The first paragraph directly places mechanics ahead of diet. The second shows that correction works, that it is not theoretical; the third makes the promiscuous administrator of cathartics realize how antiquated his practice is; the fourth points out how toxicity is affected by lesion removal; while the last paragraph simply expresses a fact of which Dr. Still became convinced some fifty years ago.

Yet in the eyes of so-called "scientific medicine" this material is new. It is definite, absolutely proved, and should impress the osteopathic physician with its resemblance to his own therapeutics.

The osteopathic practitioner is often told that he is trying to get into medicine by the back door, and yet organized medicine fifty years after the discovery of osteopathy, carries out research that proves osteopathic therapeutics to be correct.

BRIEF SUMMARY OF EVIDENCE

Clinical evidence may become cumulatively impressive. A brief summary of this evidence in relation to the association of good body mechanics with good health and poor body mechanics with poor health in children may be stated as follows:

1. Failure to gain weight and disturbances of digestion in spite of appropriate, adequate diet and favorable living conditions are frequently associated with poor body mechanics.
2. If there be present no organic lesion, weight tends to increase and digestive disturbances to disappear as poor body mechanics is changed to good body mechanics.
3. Irregular and insufficient bowel movements tend to become regular and ample with the acquirement of good body mechanics.
4. Cyclic vomiting and certain presumably toxic crises have ceased concomitantly with the correction of poor body mechanics.
5. Increase in alertness, resistance and a sense of well-being are usually associated with the change of poor body mechanics into good body mechanics.

Nothing more definitely shows the trend of the times, in the opinion of those in authority at the Child Health Conference, than their recommendations—only two of which are quoted.

EDUCATION IN BODY MECHANICS

(A) In Medical Schools

The committee recommends:

(1) That instruction in the principles of good body mechanics be made an integral part of the required course of study in all medical schools;

(2) That instruction in body mechanics be given as an integral part of the course in anatomy and continued under one of the major departments of the school either in general medicine or pediatrics and be again emphasized in the instruction given under the department of orthopedic surgery.

OSTEOPATHIC PATHOLOGY

I should like to present here a synopsis of a discussion of osteopathic pathology which I gave at the Seattle convention.†

Osteopathic pathology is but the expression of the laws of science relative to the activity of the human organism. It is the expression of disease on the keyboard of the human reflexes. It extends from the areas about the spine to the individual cells of the body. It is a pathology that will respond to the most physiologic and rational therapeutic procedures known to modern science.

To some extent the osteopathic therapeutic system takes the facts of science and makes a far better application of them than does allopathy, even though both systems are attempting to attain the same end-result.

The osteopathic lesion represents a series of abnormal reactions resulting in or coming as the result of structural abnormality. The fact that many functional changes result is but a reasonable consequence.

Briefly, the osteopathic lesion presents an area of relative acidosis affecting the tissues and organs innervated from the involved segment. The tissues carry an abnormal amount of water and we sense them [as being] edematous. This aids us in the detection of the involved area. We have hemorrhage into the tissues. Pressure effects are present, and bands of fibrin interlace and divide the muscle fibers. Segmentary areas are affected, as is the lesioned area, with a lowering of physiological function and protective agencies.

The area about the structural abnormality is characterized by a relative acidosis. With structural abnormality we must expect abnormal stress of muscle, ligament and fascia. According to Evans, in England, a muscle under abnormal strain will require at least two hundred thousand times as many impulses to reverse the biochemical change resulting in the contracture, as the normal muscle. This will result in the accumulation of lactic acid and fatigue toxins and a relative acidosis.

The physical response of protoplasm to a relative acidosis is the taking on of water. Edema must result, for it is the normal response of the cells to relative acidosis.

With the production of edema as a result of acid accumulation, there must be chemical poisons in the fluids. These weaken surface tensions and result in alteration of the permeability of the capillary walls, resulting in seepage of blood into the tissue.

The cells in this lesioned area, responding to the relative acidosis and the stimulation to take on water and become edematous, exert a tremendous pressure in proportion to the normal.

When any foreign protein gets into tissue, it causes the protective mechanism to throw down fibrin to wall it off. Thus the minute hemorrhage acts as a foreign protein and becomes the chemical stimulus to the laying down of fibrin.

In the light of these facts, the following quotations are of the greatest interest, being the observations of men of high standing in the scientific world, viewed by us in the light of osteopathic knowledge.

THE NERVE IMPULSE

Every nerve fiber under normal conditions can conduct along its axis cylinder the nervous impulse. Although under normal circumstances the impulses along each fiber are generated in a specific place, the cyton, or the sensory terminal, yet a nerve is capable of excitation by artificial means at any point in its course. *The result of such a stimulus appears to be the liberation in many of the fibers of volleys of nerve impulses, starting from the point of excitation and running with equal velocity in both directions.* These impulses are characterized and accompanied by, perhaps actually due to, electrical changes propagated along the axis cylinder, and lasting at any given point for a very short time, normally about 0.6 to 0.8 microseconds or even less.

When by prolonged stimulation the nerve is thrown into protracted activity, *the excitatory changes in the nerve fibers are interrupted, even though the stimulus may be quite continuous.* We may compare the passage of such a *stream of impulses to the discharge of machine-gun bullets, rather than to the flow of a stream of water;* "continuous" activity being represented by a quick succession of these short waves. *Excitation is followed by a refractory period and a second response cannot be obtained until this has subsided.*

Afferent and Efferent Impulses.—There is a uniform type of response in all kinds of nerve fibers, afferent or efferent; the response consists of one or more nerve impulses. In the natural discharge of impulses along the motor nerve there is no fundamental difference between naturally and artificially induced impulses.

It is not so easy to investigate natural stimulation of sensory nerves, because it is more difficult to stimulate a sufficiently large number of sensory fibers simultaneously in the normal manner, i. e., by the application of stimuli to the nerve endings. The electrical potential difference set up by the action currents in a nerve trunk depends upon the ratio of active to inactive fibers, and hence is immeasurably small for ordinary methods of observation when normal sensory nerve impulses are generated and the sensory or mixed nerve led off to a detecting instrument. The use of valve amplification with detection of the magnified potential differences by the capillary electrometer, has been used with good results by Adrian and his pupils.

Using an amplification of about 1800, Adrian was able to show that when the frog's gastrocnemius muscle was stretched, [abnormal stress and strain.—W. M. P.] *showers of impulses passed up the sciatic nerve.* Similarly, *it was shown that there is a continual stream of afferent impulses from the heart, passing along the depressor and vagus nerves, some of the impulses along the latter coming also from the lungs.* Adrian and Zotterman were able to show streams of impulses passing up the sensory nerves, from the pad of the cat's foot when this was subjected to cutaneous stimulation, and Adrian and Matthews showed similar effects in the optic nerve of the eel when the eye was exposed to light. *These researches indicate that the normal impulses travelling along sensory nerves are of the same nature as those which normally travel down the motor nerves.*

Analysis of Afferent Impulses.—The afferent impulses aroused by stimulation of many nerve endings represent simultaneous impulses along many nerve fibers. It is desirable further to analyze such results, and so to study the impulses passing along a single nerve fiber, from a single terminal. Adrian and Zotterman investigated the impressions from [a] muscle, the nerve supplying which has about 18 fibers. *When the muscle is pulled, e. g., by a weight of 2 grams, the resulting electric response suggests super-position of impulses in several fibers.* In order to reduce the number of fibers, strips of the muscle were cut away, and the re-

†Pearson, W. M.: Therapeutic Value of Adjuncts in General Osteopathic Practice, Jour. Am. Osteo. Assn., Nov., 1931, p. 73.

mainder stretched, until eventually a fragment remained, *the stretching of which generated a single succession of quite regular impulses at a frequency of from 5 to 100 per second, the intervals between impulses depending upon the intensity of the stimulation;* thus, when *pulled* with a weight of one gram, the frequency of impulses (from a piece of muscle containing at least two end-organs) *was about 290 per second; with half a gram 200* per second; with one quarter of a gram about 150 per second, each individual impulse being of the same size.

Adrian and Umrath have examined the impressions produced by stimulation of the pacinian corpuscles in relation to the flexor tendons of the cat's toes; these they find to be stimulated by pressure, but not by temperature changes. *The rate of emission of impulses varies from 5 to 100 per second, according to the intensity of the stimulus.*

We have thus, in response to stimulation an "all-or-none" response, but at a rhythm becoming faster as the strength of stimulation is augmented. *This was seen very clearly when the loading of the muscle was gradual, the result being a steadily increasing frequency of discharge.*[1] (pp. 233-236, slightly condensed.)

The character of the nerve impulse as it is now understood, lends to a greater understanding of the effect of the osteopathic lesion.

The rhythmical rate of flow, its tendency to force its way through opposition, and the necessity of this rhythmical rate being maintained so that the receptor neuron can interpret the impulse, can all be placed in the picture of osteopathic pathology.

The lowered alkalinity, the intracellular pressures, all are factors in disturbing the regulatory mechanism of the body, which is the nervous system.

RELATION OF IMPULSES TO RESULTING SENSATION

There is no difference in the character of the impulses set up by different kinds of stimuli, nor in their range of frequency. The chief difference for different kinds of sensation would appear to be the duration of the train of impulses.

The qualitative differences in sensation which result from the arrival of trains of impulses of varying length, might be due to the fact that longer trains could penetrate to portions of the central nervous system, which would not be reached by shorter trains. This probably applies to the quantitative difference between protopathic and epicritic sensations.

It seems that the *intensity of a sensation is determined by the number of impulses arising in a given time.*[1] (p. 238, condensed.)

From the foregoing quotation, we see the importance of the duration of the train of impulses which is generated.

We see that the intensity of sensation is determined by the number of impulses arising in a given time.

Thus the osteopathic lesion, with its pathological syndrome of acidosis, edema, pressure, hemorrhage, and fibrosis, becomes a biochemical stumbling block to sensation intensity.

Many of the biological protective mechanisms of the body depend upon intensity of sensation, and the osteopathic lesion interferes with its normal intensity by altering the number of impulses arising or transmitted in a given unit of time.

When one starts questioning the efficacy of osteopathic treatment he immediately shows his lack of knowledge of the scientific material available to substantiate its claim.

MOTOR IMPULSES

The inquiry into the nature of the impulses normally transmitted by motor nerves has in the past met with serious obstacles. A more powerful contraction of a muscle might be the result of the arrival of more frequent nerve impulses along all the fibers, or of impulses at the same rate but of greater magnitude, or of the implication of more nerve fibers, or be the result of grouping of impulses into synchronous or nearly synchronous volleys at a particular rate in fibers in which impulses were previously out of phase.

Sherrington and his pupils have shown that the examination of simultaneous records of the mechanical and electrical responses of the muscles involved in reflex movements, and the comparison of these with the results of direct stimulation of the motor nerve, provide valuable data regarding the nature of the excitation provided by the nerve centers, and operating through the motor nerve fibers upon the muscle.

Nerve impulses travelling simultaneously along numerous fibers of a nerve trunk are known as a volley. A volley of impulses arriving at the muscle will produce a single twitch, i. e., a contraction of a particular brief duration, e. g., about 40 microseconds. An "asynchronous volley," i. e., a group of impulses arriving at their goals at slightly different times, would give a twitch of about the same duration, or very little greater, but of slightly different form, and exhibiting a more prolonged electrical response of its individual fibers.

When the nerve trunk conveys a series of two or more volleys, the resulting contraction is a tetanic one. Thus for two volleys close together the mechanical response is about half as long again as for a single twitch, say, for the muscles mentioned above, about 60 microseconds.

The investigation by these means of such elementary reflexes as, for instance, the knee jerk, showed that it was produced by slightly asynchronous volleys of impulses. *In the spinal preparation, the knee jerk appears to be the result of four to eight volleys of impulses at the rate of about 200 per second, whereas the decerebrate preparation gives a knee jerk which more closely resembles a single twitch.*[1] (pp. 239-241, condensed.)

The possibility of reflex contracture, and of contractures about a vertebral segment affecting tissues supplied, can be read into each line of the preceding quoted evidence.

OXYGEN LACK

Investigation of the action of *oxygen lack* on nerve provides another means of approach to the problem. *The loss of conductivity happens more rapidly during stimulation in nitrogen than during rest. On readmission of oxygen the nerve recovers its excitability and conductivity,* but not fully unless it is also washed in Ringer's solution; even washing the asphyxiated nerve with oxygen-free Ringer's solution to some extent restores it. We may interpret these results as suggesting that during anaerobiosis toxic products accumulate, and that these can, to some extent, be removed by washing, and to some extent by the presence of oxygen. *The nerve is capable of carrying out its functions perfectly well in the absence of oxygen until these products have accumulated to a sufficient concentration.*[1] (p. 275.)

In the area of osteopathic pathology we have the accumulated products of metabolism, both chemical and biological toxins. The edema and the pressure prevent proper oxidation, and thus reduce function and permit accumulation.

The foregoing quotation shows that the effect of the lesion on the nerve impulse is underestimated. The lack of oxidation and the accumulation of CO_2 and retained products become proven factors in the alteration of nerve impulse transmission.

"VAGUS-SUBSTANCE"

The vagus thus (1) slows the whole heart; (2) produces varying degrees of heart block or arrests the ventricle altogether; (3) diminishes the force of contraction of the chambers of the heart; (4) the refractory period and duration of systole are shortened.

Effect on the Blood Pressure.—As the heart is slowed and its force lessened, the output of the heart is greatly reduced, and the blood pressure falls rapidly. Within a few seconds of commencing vagal stimulation, the blood pressure may sink almost to zero, and remains low. On ceasing to stimulate the nerve the blood pressure mounts rapidly and may exceed the initial pressure and then return to normal.

Several reasons may be adduced to account for the excessive after-rise of blood pressure:

(1). During vagal stimulation the circulation is so inadequate that an element of asphyxia supervenes, which stimulates the vasomotor center and constricts the arterioles.

(2). The auricles and great veins become engorged with

blood, which the feebly acting heart cannot dispose of. As soon as the ventricles resume functioning normally, the great diastolic filling stretches the fibers, and so the force and output of the heart are increased.

"Vagus Escape."—Vagal stimulation may be continued and in spite of this the pulse may quicken, and the blood pressure rises. Two factors are possibly at work:

(1). The onset of vagus escape is often associated with high pressure in the great veins leading to the right auricle. This stimulates sensory fibers which pass up the (intact) vagus to the cardiac center reflexly to accelerate the heart. This reflex *competes* with the effects of the artificial stimulation of the other (cut) vagus and may overcome it, causing the heart to increase in rate.

(2). In some cases complete heart block is produced, and the ventricle assumes its independent rate, which is in no way affected by the vagus nerve.

Pressure on the carotid sheath at the level of the upper margin of the larynx may slow the heart (and lower blood pressure). This is probably not due to mechanical stimulation of the vagus nerve *but to compression of the sinus caroticus,* which sets up a depressor reflex.

Pressure on the eyes through the closed lids, if firmly maintained for a few seconds to a degree to cause much discomfort, may reflexly inhibit the heart.

"Vagus-Substance."—A considerable amount of evidence has now accumulated to show that *the vagus nerve causes to be liberated in the heart a chemical body—probably an acetyl derivative of choline—which is the agent responsible for the inhibitory* effects produced by the nerve.

(1). If an isolated frog's heart containing a small amount of Ringer's solution is subjected to repeated vagus stimulation, a chemical substance is liberated which appears in the lumen of the ventricle, and which will inhibit another heart to which it is applied; it will also produce vagus effects in other organs—e. g., it causes contraction of the stomach.

(2). A similar body can be extracted from the frog's heart muscle; but previous vagus stimulation increases the yield which is obtained. These observations have also been repeated with mammalian heart muscle.

(3). The substance is intensely active, very unstable, and closely resembles acetylcholine in its properties; on hydrolysis it readily yields choline which is much less active.

This work has been extended and it is now suggested that all the effects of the vagus and of the other parasympathetic nerves are similarly due to the liberation of an "acetylcholine-like" substance.

Acetylcholine imitates the action of the parasympathetic, e. g., *it slows the heart, stimulates intestinal movements,* etc. It is very evanescent in its action, probably because it is hydrolyzed to produce the much less active choline. But it also dilates small arterioles in areas which are not believed to receive a parasympathetic supply—e. g., the limbs, which receive dilator fibers from the posterior nerve roots. Another interesting action of the acetylcholine is the following: *if the motor nerve supply of the hind limbs is severed and allowed to degenerate, the injection of acetycholine produces a slow contraction of the voluntary muscle.*

Stimulation of the peripheral end of the posterior nerve roots produces a similar action in the denervated muscles of the hind limb of the cat. The fact that both acetylcholine and posterior root stimulation produce the same two effects in the hind limb, i. e., vasodilatation and this slow contraction of denervated muscle, has led to the suggestion that the posterior nerve roots may also liberate acetylcholine peripherally.

After atropine, the vagus can still stimulate movements of the intestine, and the chorda tympani still produces vasodilatation, but the similar actions of acetylcholine are abolished. These discrepancies have to be faced, but it must be recognized that acetylcholine introduced into the medium in which a piece of intestine is contracting need not necessarily act in identically the same may as the same substance liberated at specific points within the tissue.[3] (pp. 266-268.)

GENERAL EFFECT OF SPECIFIC TREATMENT

There has always been a tendency to account for the selective effect of osteopathic treatment only, leaving its general effect to be a clinical factor.

The quotation relative to "vagus-substance" shows how the vagus effect becomes one transmitted to a general circulation through an absolutely changed blood chemistry.

This scientific evidence immediately accounts for the desirable effect of lesion correction anywhere found. There is a selective action unquestionably, which comes from the segmental nerve relationship. But there is a general effect by the removal of any inhibition to the transmission of impulses over the vagus system.

The following evidence shows how effective this is in the regulation of blood pressure in the body. The evidence submitted again proves that the nerve impulse has the ability to change blood chemistry, be general in its effect, and extensive enough to affect every living cell in the body.

With evidence of this kind, that is indisputable, the "find it, fix it, and leave it alone" becomes something more than words, with both a specific and general effect upon the tissues of the body.

NERVOUS CONTROL OF THE CORONARY CIRCULATION

The coronary arteries are richly innervated from both the vagus and sympathetic. The innervation of the smallest branches is mainly from the vagus, that of the larger from both sources.

Various efforts have been made to ascertain the influence of the nerve supply on the coronary blood vessels. On the whole, the opinion of workers was that the vagus carried constrictor fibers. This has been confirmed by experiments on the innervated heart-lung preparation, [using] a pump for supplying the head of the animal with blood. The vagal fibers are normally in action and so render the coronary flow smaller that it would be in the denervated preparation. Section of the vagus causes relaxation of the coronary vessels by releasing these from the vagus tone, just as it allows quickening of the heart rate.

The increase in coronary flow is, however, not due to the concomitant acceleration of the heart rate; the increase persists, while the rate of beat remains constant, if atropine has previously been administered, or if the heart is driven electrically at a suitable high rate: it has also been shown independently that the coronary circulation is not appreciably affected by the rate of the heart beat.

An important reflex was found to be operative when, in the innervated heart-lung preparation, the output of the preparation was raised. When the nerve supply is intact, an increased output is followed by an increase in the coronary flow. This effect is lost on section of the vagi. In the intact animal, therefore, when the output of the heart is increased there is, in addition to the reflex cardiac acceleration by the Bainbridge reflex, also an independent reflex relaxation of the coronary flow whereby the heart receives an increased blood supply to enable it to perform its extra work.

What the effect of the sympathetic supply to the heart may be is not so certain, but it seems reasonable to suppose that the sympathetic supply has, on the whole, a vasodilator effect, particularly on the smaller branches of the coronary system.

Stimulation of various sensory nerves, or cerebral anemia, also causes considerable coronary vasodilatation, which is prevented by extirpation of the stellate ganglia.

To sum up, therefore, we see that the coronary circulation is dependent upon various modifying actions. *First and foremost upon the arterial pressure, next upon its chemical surroundings; and, thirdly, upon the reflex control of a tone imposed upon it through the nervous system.*[1] (pp. 27-29, condensed.)

EFFECTS OF CHANGES IN CEPHALIC ARTERIAL PRESSURE

It has been generally agreed that an increase in the intracranial arterial pressure tends to produce, as compensatory phenomena, slowing of the heart and a fall in the somatic blood pressure. There was uncertainty, however, as to whether this fall was entirely due to the operation of cardiac factors, or whether vascular changes were also involved. It was concluded from experiments that rise of pressure in the head produces fall of pressure in the body by means of both cardio-inhibition and vasomotor relaxation and we now know that the reflexes from the carotid sinuses must play a large part in causing this response.

The next question was whether or to what extent these reactions might be the result of direct effects of the altered pressure upon the cardio-inhibitory and vasomotor centers respectively. It was shown that these effects of raised intracranial arterial pressure disappeared when all the nerves in the neighborhood of the carotid sinus had been destroyed. This can be illustrated by the simple experiment of lowering the cranial pressure by occluding the carotid arteries. It will be seen that the effects disappear if the carotid sinus is denervated.

Hering's conclusion that this zone therefore represented an important reflexogenic area for regulating cardiovagal and vasomotor tone has been fully confirmed, but his further claim that rise of pressure in the arteries of the head produces its effects exclusively in that manner, and never by exerting a direct effect upon the bulbar centers, is perhaps not so generally accepted. That the medullary centers which are concerned in regulating the circulation are liable to be directly affected by alterations of intracranial pressure was held to be true by [some], but denied by [others].

An application of the technic of the "isolated head" enables this question to be investigated. The head of dog B is fed exclusively from dog A by anastomoses between the carotids and external jugulars of the two animals—all the tissues of the neck of B, with the exception of the two vagi, being divided. The head of B, therefore, is in vascular connection with A, and its only connection with its own body is through the two vagus nerves.

With this preparation it can be shown that a rise of pressure in A leads to a slowing of the heart in B. If the carotid sinuses of B are denervated, alterations of pressure in A no longer produce any effects upon the heart rate of B. We must conclude, therefore, that pressure changes in the head produce their effect upon the heart rate, not through any direct action on the cardio-inhibitory center, but entirely through reflexes generated from the carotid sinus.[1] (pp. 38-41, condensed.)

THE PART PLAYED BY THE CAROTID SINUS IN THE REGULATION OF THE CIRCULATION

Among reflexes which control the circulation by bringing about alterations in the rate of the heart or in the vasomotor tone, physiologists have long recognized the depressor mechanism described by Ludwig and Cyon. Within recent years another important mechanism has been revealed—an important zone in the neighborhood of the bifurcation of the common carotid artery, by which heart rate and vasomotor tone are reflexly controlled, in response to various stimuli, conspicuously those due to alterations in the degree of distension of blood vessel walls in this region.

The Carotid Sinus.—The carotid sinus, in the physiological sense, signifies a specially innervated part of the vessels and tissues in the neighborhood of the bifurcation of the common carotid, and includes also the carotid body. A bulbous expansion, the carotid sinus or carotid bulb, is seen at the root of the internal branch.

A distinct nerve twig runs from the carotid sinus to the glossopharyngeal. These nerves originate in the carotid sinus as a fine network of fibers in the adventitial coat of the artery, while some of them also are connected with definite bulbous endings. A small branch which passes from the carotid sinus to the superior cervical ganglion has also been described.

The carotid body, which was formerly supposed to be an endocrine organ, is believed by [some] to be related to the carotid sinus. This organ is richly supplied with blood vessels. Around the arteries is a network of nerves derived from filaments which run to the glossopharyngeal and to a small extent to the ganglion of the vagus trunk. All the fibers of the carotid sinus region are afferent in function, so far as has been ascertained.

Reflex Function of the Carotid Sinus.—Stimulation of the carotid sinus electrically, or mechanically, as by stretching its walls from within, provokes a combined reflex of cardiac inhibition and fall of blood pressure, just as does stimulation of the central end of the depressor nerve. In fact, we may regard the reflexes from the carotid sinus and from the depressor nerve as part of the same arrangement for controlling the blood pressure. As with the depressor nerve, it is found that, after section of the vagus in the neck, stimulation of the carotid sinus in any way no longer produces the cardiac inhibition (proving that this was reflex), but will still provoke a fall of blood pressure.[1] (pp. 31-35, condensed.)

NONSPECIFIC IMMUNITY

Another sort of manifestation of apparently nonspecific immunity reactions has been observed especially in therapeutic immunization. Beginning with the . . . observation . . . that the tuberculin reaction could be produced with deutero-albumose, many similar nonspecific reactions have been observed. For example, *the sharp reaction that follows intravenous injections of killed typhoid bacilli into typhoid patients occurs equally well if colon baci'li are used, or deutero-albumose.* One possible explanation . . . is that the injected substance acts as a *common antigen,* which causes the production of common antibodies that react also with the antigens of the cause of the disease. Another possibility is that the foreign protein stimulates the tissues . . . so that they produce not only antibodies for this antigen, but also for [those] of the etiologic factor of the disease that have been stimulating the antibody formation. . . . For example, if an animal that has previously produced precipitins for one foreign protein is reinjected with a different protein it will produce precipitins for both these, and possibly for other proteins with which it has not been injected. Moreover, the febrile reaction, the leukocytosis, and other phenomena . . . that injection of nonspecific protein produces, may be responsible for favorably affecting the disease, rather than actual antibody formation. . . .

Whatever stimulates the bone marrow may cause it to form, among other blood elements, specific antibodies. . . . If a horse that has been immunized to diphtheria toxin is bled as much as possible, it will regenerate the lost antitoxin within 48 hours, even although the last immunizing dose of toxin received was long before.

Also, it is stated that persons who have once had typhoid, but whose blood no longer contains much agglutinin, may show a high typhoid agglutinin content when infected by some other organism, or after any sharp febrile attack. It is highly possible that many nonantigenic therapeutic agents may similarly act by stimulating the tissues to increased formation of specific antibodies, e. g., arsenic, mercury and other metals, heliotherapy, hemorrhage or phlebotomy, hot baths.[2] (pp. 168-169, condensed.)

ANTIENZYMES

Dragstedt and Vaughan have found that not only intestinal mucosa, but also spleen and kidney may be sewn into openings in the stomach, and suffer no injury although bathed with normal gastric juice for months.

Even spleen and kidney parenchyma exposed to the gastric juice by removal of the capsule of the organ before attaching it to the stomach, continues to live with but a little surface erosion. Although these observations do not explain how the living tissues resist gastric digestion, they at least disprove all theories based on either protection by mucus, or habituation to an acid secretion. *If protection depends on an antienzyme, this must be widespread and not specific to the digestive tract. Since protection requires an intact blood supply it seems most probably that the buffer action of the blood and the removal of excessive amounts of acid and enzymes, are the essential defensive agents.*[3] (p. 46.)

SUMMARY

The variety of reactions and the variety of defensive substances are both remarkably small in number. The reactions are: Oxidation and reduction, hydration and dehydration, and perhaps simple addition (methylation).

The chief known protective substances are the alkalies of the blood, proteins, hydrogen sulphide, sulphric acid, glycine, urea, cysteine, glutamine, bile acids, glucuronic acid, and acetic acid.

All these substances are normally present in the body, and none of them is specific against any one poison, but each combines with several poisons. This last fact is interesting in comparison with the highly specific nature of the immune substances against bacteria and their products.[3] (p. 271.)

The preceding quotations have shown to what extent nervous mechanism enters into the control of vital activity in the body. They have shown the importance of blood supply and its dependence upon the nervous mechanism.

The quotations that follow are given to show that "the rule of the artery is supreme" and that the body through its blood supply, has the ability

to control immunity, and give to the tissues protection through antienzymes and nonspecific antigens.

The osteopathic lesion alters nervous control. This control has both selective and general effect. The alteration of vascular control resulting from this pathology alters the distribution of antienzymes. It alters the quality of the blood, affects the nutrition to long bones with a subsequent lowering of the factor of nonspecific immunity, and impairs the removal of products of metabolism.

SUMMARY AND CONCLUSION

There is no attempt at any originality in this paper. Personal opinion would make the material unscientific. The pathology of the osteopathic lesion is established. There exists in the region an acidosis, an edema, intracellular pressure, hemorrhage and fibrosis.

Two factors are of vast importance; they are the relative acidosis and the intracellular pressure, for they are the physical forces that are known to alter quantitatively the rhythmical rate of flow of nerve impulses.

Not only is this production and transmission altered, but also the interpretation into energy of service is made impossible.

Clinically, the osteopathic lesion is the same as the region of improper body mechanics mentioned in the evidence submitted from the National Child Health Conference.

On every hand science has made available evidence that will substantiate the osteopathic claim. To say that osteopathy is unsound is to reflect upon scientific evidence—or confess lack of knowledge of such material.

The value of the removal of osteopathic pathology is greatly underestimated, from the clinical evidence available. When one faces scientific facts the question can only come as to how the body manages as well as it does with this pathology existing.

Science places before the osteopathic profession a challenge to make the most of its own therapeutics, and to keep ahead of the times in its advancement.

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Urology and Its Value to the General Practitioner

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V

INFECTIONS OF THE KIDNEY

Infections of the kidney may vary greatly in severity and the subjective symptoms be very misleading. A bacterial lesion may be the cause of an acute or chronic nephritis without any gross evidence of bacteriuria. Bacteria may be constantly present in the urine but in such small numbers as to escape discovery by staining or any of the ordinary methods, and demonstrable by culture only.

Bacteria form the starting point or nucleus of a calculus. Phosphatic calculi are secondary to inflammation caused by urea-splitting ammoniogenic organisms, but the cause of primary acid stones is yet unknown.

One will frequently find pathogenic organisms in urine that presents no other evidence of pathology. This is especally true after the apparent cure or at least the subsidence of the symptoms of a known infection. After the pus casts and albumin have all disappeared the same germs that were present at the height of the attack in great numbers may still be cultivated from the urine. This is especially true of B. coli.

It is not known how long these germs can continue to exist in small numbers in the urinary tract without causing trouble. No doubt this may continue for years, and the apparent spontaneous appearance of pyuria in adults dates back to some childhood infection. Children are very susceptible to acute renal infections and while they usually recover completely a latent bacteriuria may exist indefinitely and flare up in later life.

"Ross for example, made a bacteriological examination of 106 children's urine. Among 19 normal urines 8 were contaminated by Staph. albus; 43 cases of B. coli infection were found. Among these only 3 had frank pyuria, 12 had a pure bacteriuria, and 6 revealed the bacilli only to culture. Suter goes so far as to affirm that once the B. coli has established itself in the urinary tract there is small likelihood of its ever disappearing." (Cabot)

In the face of the foregoing then, it behooves us to be on the lookout for bacteriuria in children. We have seen how this can occur in the presence of urine normal by every chemical test and in the absence of symptoms pointing to renal pathology.

Strictly speaking, bacteriuria is urine clouded by bacteria yet free or practically so, from pus. It it not always of renal origin. It frequently occurs during the course of a chronic prostatitis.

Bacteriuria always calls for close and careful attention. It may be the beginning or the end of some known inflammation. It should be determined whether it is partial or total. It is total when renal in origin, partial when due to prostatitis.

ETIOLOGY

The bacteria causing renal infection are principally the staphylococci and B. coli. Tuberculosis of the kidney will be discussed under a separate heading.

The urine of patients recovering from typhoid will contain the B. typhosus in about 25 per cent

of the cases. It seldom causes more than a bacteriuria but owing to the fact that it may make a typhoid carrier of the victim it will also be discussed later.

It is not my plan to discuss in detail all the various bacteria that can and do infect the urinary tract. Such a course would be wearisome and is more ably done in the textbooks on the subject.

It is sufficient to draw your attention to the importance of looking for and recognizing renal infections, their course and prognosis, symptoms and treatment.

The bacteria that will be most frequently found are B. coli and the different staphylococci. As before stated the B. coli is the most difficult to dispose of but it is less likely to cause cortical infection or perinephritic abscess. It causes a mousy like odor of the urine, varies greatly morphologically and culturally as well as in virulence. It is found in an acid or neutral urine.

The cocci also vary greatly. They have the faculty of splitting urea into ammonia and water and therefore produce an alkaline urine. A few paragraphs back it was stated that phosphatic calculi are the result of ammoniogenic organisms. This ammoniacal urine is very irritating and this, together with the irritation from calculi that may have formed often renders staphylococcic and streptococcic infections highly virulent although they are confined to the bladder more often than is B. coli. When the coccal infection is mild it may not break up the urea but it usually will produce an alkaline urine. Cocci are occasionally found in an acid urine. Most cases of perinephritic abscess are caused by the pus producing cocci.

Cabot lists the following routes of invasion of the urinary tract:

1. From the kidney (a) by the blood stream and (b) by the lymphatics.
2. From the urethra (usually by instrumentation).
3. By eruption of a neighboring focus of infection.
4. By lymphatic or circulatory invasion at some point other than the kidney.
5. By operative or other trauma.

Focal infections and catarrhal affections of mucous membranes do infect the blood stream as can be proved by blood culture. The small foci about the roots of the teeth, tonsils, prostate and seminal vesicles, or even an infected ingrowing toe nail are frequently the feeders for a bacteriuria. The same holds true for infections of the nasal sinuses and the colon.

Until these foci are discovered and cleared up little can be done to clear the urine and there is the ever present possibility of a more serious infection of the kidney. It is necessary that one be on the lookout for bacteriuria, for it is so often symptomless and as Cabot says, probably every adult human being has had a bacteriuria form some of the causes mentioned and as this bacteriuria is as often symptomless, an alert and suspicious mind is required to discover it before damage is done. Infection or bacteria in the urine coming from the kidney is known as a descending infection.

Ascending infection coming from the urethra is also quite common. The anterior portion of the male urethra and the female urethra especially contain such bacteria as are found on the skin and mucous membrane in the immediate vicinity and no amount of lavage or irrigation will entirely remove them. Consequently when an instrument is passed some of the germs (which are for the most part pathogenic cocci and B. coli) are carried into the bladder. Fortunately, however, these do no damage in a normal urinary tract provided the mucous membrane is not abraded and there is no urinary retention. In obstruction from an enlarged prostate with residual urine, bacteria gaining entrance to the bladder will always soon cause kidney infection.

Now how does the infection get to the kidney from the bladder? There are two possible ways.

1. The bacteria gain entrance by absorption into the lymphatics of the bladder and prostate, are emptied into the blood stream and carried to the kidney where they are excreted.

2. Direct infection of the lymphatics which form a network in the walls of the bladder and ureters.

This latter theory seems to be the most acceptable. These lymphatic vessels anastomose extensively with the lymphatics of the kidney so any infection they might be carrying will gain access to every portion of that organ.

A reflux of infected urine up the ureter no doubt can and has occurred thus infecting the kidney tubules directly but this is probably rare.

The eruption of a neighboring focus.—Should a retroperitoneal abscess rupture it is easy to understand how the kidney could be infected, but Cabot says this is rare.

There is a direct communication between the lymphatics of the colon and the right kidney and there may be such a communication between the rectum and the bladder, at least it has been stated on good authority that the bladder has been so infected. I have had one case where I was positive that the rectal condition had a direct bearing on the bladder symptoms. This man had a rectal fistula and hemorrhoids. The bladder resisted all treatment until these two conditions were cleared up. The foregoing would be termed *direct lymphatic invasion.*

Traumatic infection.—How this can occur is obvious and needs no comment.

Under ordinary conditions the kidney cells are without doubt able to destroy bacteria that are carried to them by the blood stream but it is not hard to understand that bacteria may reach them in such numbers that the normal resisting power of the cells are incapable of disposing of them. Focal suppurative nephritis is no doubt an example of this very thing; or again it may be an acute exacerbation of a chronic lesion. One might assume the latter true if no acute infection exists elsewhere in the body.

Frequently both kidneys are overwhelmed by the bacteria but if one kidney only is affected there is practically always some predisposing factor that lowers the resistance of that kidney and not the other.

What are some of these predisposing causes? I am going to follow Cabot in presenting these predisposing causes which are too numerous to be all mentioned; but it can be said that any mechanical or toxic condition which lowers resistance of a kidney favors its chance for infection. Cabot mentions as the most common:

1. Retention, urethral or ureteral
2. Trauma
3. Toxic influences
4. Reflex influences

Retention may result from obstruction of the urethra or ureter. When of the former it is oftener due to stricture or prostatic enlargement than to stone, tumor, or anything else.

When of the ureter the obstruction may be within the ureter, stone, stricture, blood clot, or tumor, or it may be due to angulation of the ureter from movable kidney or an aberrant blood vessel entering the kidney over which the ureter may be looped. Pressure may be from without the ureter such as tumors, pregnancy, etc. Ureteral obstruction is usually unilateral except in the case of stricture which is usually bilateral and then it may be that only one is strictured sufficiently to cause obstruction.

Urethral obstruction is easily recognized for it causes bladder retention, but ureteral retention may be so slight as to cause only mild symptoms or be intermittent as in movable kidney, yet this retention, slight as it is, may be sufficient to cause enough congestion of the kidney to favor infection from bacteria that would otherwise do no harm. Ureteral retention is very frequently overlooked for this very reason. Retention with even slight back pressure on the kidney is the cause of congestion and if intermittent in type may be missed altogether. The congestion is what favors infection, not so much the retained urine, even though it is a good culture medium.

Trauma includes injuries from stones, bruises, wrenches, subparietal contusions and even such slight injuries as provoke no symptoms, as well as open wounds that admit infection directly into the kidney.

Toxic influences are very potent in predisposing the kidney to infection. Some toxins exert greater influence in this direction than others. Cabot says that acute Bright's disease or acute congestion resulting from chemical irritants are likely to be followed by bacterial nephritis. This should be kept in mind.

Bacterial toxins, especially those of the pus-producing organisms and B. typhosus, predispose the kidney to infection more than any others. A good many typhoid patients, during the course of the disease, develop pyelonephritis, but they almost all recover from the renal infection when the typhoid subsides. This condition might be termed a renal infection from the overwhelming dose of bacteria, the kidney being predisposed by the double assault of toxins and bacteria circulating in the blood and lymph.

Another example of toxins affecting the kidney is seen in tuberculosis of one kidney which may cause toxic nephritis in the other.

Reflex influences.—As a result of serious disease in one kidney the opposite one will frequently hypertrophy to such an extent as to cause actual pain. This hypertrophy and congestion undoubtedly predisposes to infection but as long as there is no obstruction or retention the infection remains mild. Should this kidney become traumatized, however, a more serious infection is likely to result.

This so-called reno-renal reflex has been productive of considerable discussion and differences of opinion and though the condition mentioned in the preceding paragraph admittedly exists, Cabot says there is no more evidence that pain ensuing from a lesion in one kidney is felt in its fellow than that any other internal sensation should be thus transferred.

However, it gives one something to think about. Pain in one ovary, testical, adrenal or whatnot may be due to a compensatory hypertrophy resulting from disease of its fellow. This may be carrying the analogy to an absurd degree, but if the one is possible, why not the other?

It is entirely possible for an acute kidney infection to occur as the result of an overwhelming number of bacteria reaching them without any predisposing cause being present. This would produce the pyemic kidney which is usually fatal as it is bilateral.

Unilateral focal suppuration occurs in a kidney that has been previously inflamed or damaged by trauma or retention.

Cabot mentions a third class of cases of focal suppurative nephritis where there has been no known injury, retention or infection. He terms them multiple septic infarcts of the kidney for two reasons:

1. The lesions suggest pyemic infarcts by their wedge shape.
2. They often occur in cases with a recognizable focal or catarrhal infection, such as tonsillitis, furunculosis or colitis.

The foregoing is the classification that has been in the past adopted, but he is inclined to disagree with it and says after giving his reasons, "On the whole, therefore, there seems no warrant for separate classification of septic infarcts. There seems indeed, to be grave question of their existence. . . . The local conditions of trauma, retention, and antecedent infection are the determining factors in the etiology of acute renal suppuration."

Acute renal suppuration is very probably due to a flare up of chronic pyelonephritis.

But what causes chronic renal infection? There are several factors, probably, besides the four already mentioned. But the mechanical causes are very likely the most important. Bacteria circulate in the blood frequently, one might say almost constantly, but as long as there is no trauma or retention due to stone, no kinking of the ureter to produce a lowered resistance in the kidney, these bacteria have little if any power to do harm. Remember the following:

The lesions produced by infection of the kidney practically never occur singly.

Pyelitis is always accompanied by nephritis.

Suppurative nephritis, with the exception of the pyemic kidney which is a part of a general pyemia, is always accompanied by pyelitis.

Now that we have seen how the kidney might become infected the important problem is, how to recognize the condition and what to do for it.

The organisms found most frequently in renal infections are, colon bacillus, staphylococci and streptococci, and occasionally proteus, B. typhosus and the pneumococcus, the frequency of their incidence being in the order named. The gonococcus rarely attacks the kidney.

PYELITIS

Pyelitis may be unilateral, although in the later stages of ascending infection it is usually bilateral, both kidneys being infected but not to the same degree.

The disease begins as a catarrhal inflammation of the mucous membrane of the renal pelvis, which becomes congested and thickened. As has been observed before there is always nephritis accompanying acute pyelitis and it is practically impossible to differentiate between acute pyelitis, acute pyelonephritis, and suppurative kidney, so the picture resolves itself into acute renal infection.

Cabot divides acute renal infection into:

1. Mild cases.
2. Severe cases.
3. Fulminating cases.

MILD CASES

Symptoms.—The cardinal symptoms are pus in the urine and tenderness and possible enlargement of the affected kidney, as these cases show only a brief rise in temperature and complain of little or no pain in the loin. There will be pus, bacteria, and albumin in the urine, and there may be some bladder irritation, which often being reflex in origin may be misleading, causing one to think it cystitis only.

Treatment.—The first thing to be thought of is rest in bed and the free drinking of water to wash out accumulated pus, bacteria and other débris in the renal pelvis and ureter.

Treatment will be discussed more completely in the treatment of renal infections in general.

SEVERE CASES OF ACUTE RENAL INFECTION

Symptoms.—In these cases there is considerable rise in temperature which is often very irregular and may be interrupted by chills. Pain and discomfort in the loin may be very severe or it may be entirely absent but there is always tenderness. These cases run an irregular course with many relapses and the more acute the case, the less likely is there to be pus in the urine. The course of the disease depends very much on its management and treatment.

FULMINATING CASES

Symptoms.—These cases are characterized by extremely high temperature and repeated chills with a practically complete absence of any symptoms pointing to any renal trouble whatsoever. The pain, if any, is slight. Urinalysis tells nothing in many cases. Pus is not found. There will be some albumin and red cells in the urine but these are not diagnostic. The only way diagnosis can be made is by ureteral catheterization. One will then find an almost if not complete absence of function or total suppuration on the affected side.

These patients are dangerously ill and there is only one thing to do and that is immediately to remove the infected kidney. If this is done early before the sepsis has broken down the opposite kidney the operation is highly successful.

CHRONIC PYELITIS

Symptoms.—These are not marked and the condition may exist for a long time without arousing any suspicion of renal infection. There is seldom, if ever, any fever. There is frequency of urination caused by polyuria and the urine is of low specific gravity and containing pus, epithelial cells from kidney pelvis, blood cells and casts of the hyaline and granular variety. The patient will complain of indefinite pains or aching in the loin and tenderness on pressure at the angle of the twelfth rib. If one will strike with the flat of the hand at this spot severe pain will be complained of. Unless there are complications the kidney is not enlarged.

Bladder symptoms beginning with fever and chills, with pus, bacteria and possibly red cells in the urine always suggest a beginning pyelitis but the diagnosis can be clinched only by ureteral catheterization, urine being drawn from both kidneys separately.

Renal tuberculosis, calculus and hydronephosis must be differentiated from chronic pyelitis and this cannot be done without a complete urological examination comprising cystoscopy, ureteral catheterization, pyelograms, examination of urine from right and left kidney and guinea pig inoculations. Cultures are sometimes necessary to demonstrate bacteria.

If this were done more frequently many victims would not be forced to undergo a needless and futile operation for what was thought to be appendicitis or gall bladder disease.

Treatment.—After the diagnosis of chronic infection of the renal pelvis has been made, the first thing to be thought of is the removal of all irritation and free drainage. If there is a stone in the kidney it must be removed and if there are any obstructions along the ureter due to kinks, twists or strictures, they must be straightened or dilated. If there is residual urine in the bladder due to enlarged prostate or other cause the bladder must be drained and kept drained.

Free drinking of water to flush the kidney pelvis is important. Many say the giving of urinary antiseptics is of little value but nevertheless, I am convinced that a large majority of cases will recover faster if they are given methenamine in from 5 to 10 grain doses, three to four times daily. It should be given after each meal and at bedtime with a full glass of water. If the urine is alkaline or neutral an equal dose of sodium acid phosphate should be added to acidify the urine as the methenamine can liberate its formalin content in an acid medium only and it should be quite highly acid. If the methenamine is dissolved in the water before being taken there is far less likelihood of its upsetting the stomach.

Other urinary antiseptics should be kept in mind for some cases will respond to them better than to methenamine. The ones found most successful are mallophene, pyridium and serenium. These three are practically identical, merely different names given by different manufacturers. Caprikol is another and is of extreme value, as is the others, in certain cases. The chief objection to them is their expensiveness.

The renal pelvis should be irrigated at least once a week. The catheter is passed through the cystoscope to the pelvis which is washed thoroughly with a 1:1000 solution of silver nitrate which can be gradually increased to 1:500 and in many cases I use a ½% solution. An excellent solution which the writer has used most frequently is a 1:1000 or even 1:500 meroxyl. It is highly germicidal and nonirritating. If both kidneys are infected, they should not be irrigated at the same time. To do so may cause complete suppression of the urine.

If the bladder is involved, which it may be from a descending infection, it should be irrigated daily or every other day with a 2% boric acid or 1:8000 potassium permanganate gradually increasing strength at each treatment up to 1:1000 unless increasing strength of solution irritates. After each irrigation of the bladder inject through the urethra into the bladder one ounce of 5 to 10 per cent neosilvol or 1% argoiodine. Allow this to remain. In lieu of the boric acid or permanganate irrigations one may use silver nitrate starting with 1:10,000, gradually increasing.

It is better to use urethrovesical irrigation than to use a catheter in the urethra so often. Fill the bladder through the urethra and allow it to be passed when bladder is filled. A two or even one ounce

asepto syringe is ideal for this and by gently exerting pressure on the bulb with the thumb the resistance of the cut-off muscle is overcome and the solution readily flows in. In the female there will usually be little resistance but in the male if there is much difficulty in getting past the muscle, instruct the patient to try to urinate, to strain as at the stool. This relaxes the muscle. With some, there will at first be difficulty in spite of these measures and it will be necessary to inject a half ounce or so of ½% butyn or 3% borocain. In these strengths these anesthetics are harmless with absolutely no tendency to form a habit.

If the gravity method is used never hang the container more than three feet above the symphysis.

In badly infected renal pelves with considerable pus and poor drainage through the ureter from one of the various causes mentioned, it is not only permissable but excellent practice to allow the ureteral catheter to remain in the ureter for one or several days. This facilitates drainage, gradually and gently dilates the ureter, and presents an open and ready channel. It must be watched and if it should become obstructed by pus or blood clot or what not, gently inject a few cubic centimeters of sterile water or any of the antiseptic solutions mentioned. If that does not open it, it should be removed immediately and another inserted if necessary.

Under this regime, and with the great recuperative powers of the kidney, a very large majority of the cases recover readily but one must remember, especially if the infecting organism was B. coli, the question of whether or not it is ever entirely eradicated and warn the patient to be on the lookout for future infections, thus heading them off before they become severe.

All foci of infection elsewhere in the body must be searched for and cured if possible, for one of these was no doubt the origin of the kidney infection.

Nephrotomy or drainage is to be thought of only after all other measures have failed and only then after a thorough search has been made and no calculus, movable kidney, ureteral stricture or kink or tuberculosis is found.

It is important that these cases receive osteopathic treatment. Lesions should be looked for especially from the tenth dorsal down and in the entire lumbar area. The lower ribs should be given attention and any deviation from the normal corrected. The entire spine from the occiput down, and the ribs should be gently treated, relaxing all muscles and stretching the ligaments. I have found, as a rule, no osseous lesions but the muscles of the back on the affected side are hard and contracted. This is especially true of the acute cases and treatment adds greatly to their comfort. I have carefully observed those patients receiving osteopathic treatment and compared them to those who did not have it and the untreated (osteopathically) required considerable longer time to recover besides suffering more discomfort.

(To be continued)

Essay on Vertebral Lesions

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PART II
SUGGESTIONS FOR A PROGRAM OF RESEARCH

Normal function depends on the integrity and the mobility of parts. This is fundamental and, incidentally, is the osteopathic tenet. It immediately implies the possession of a most intimate knowledge both of the structure of the said parts and of their functions. The practice of osteopathy has fully demonstrated its worth, but the development of its theory, so urgently needed *in view of the advance of others*, has not progressed very far beyond the *dicta* of A. T. Still. True, laboratory experiments have here and there amply verified the well founded basis of these dicta; nevertheless there is lacking a well outlined continuity of impeccable demonstrations, as well as a far more advanced knowledge of the anatomy, histology and physiology of every component part of the spine than that which we have too complacently relied upon. Our mode of investigation must be patterned upon that of such men as Claude Bernard and Ranvier, for example, if we wish to accomplish the desired results. Thus, before undertaking a given demonstration, we must have a clearly defined program of action; if we wish to study the effects of an artificially produced vertebral lesion upon a certain nerve, we must know in advance what tissues will be involved, the kind, degree and specific effect of that involvement upon the nerve itself as well as upon each of the correlated parts; we must know precisely why the lesion, once formed, remains so, and what conditions obtain immediately after correction. It is therefore clear that physiological experimentation can proceed with assurance only when fundamental knowledge of the parts dealt with is securely at hand; otherwise it will tread among so many complexities that it will fail to convince, even if seemingly successful. The needed information is not to be found in our anatomy textbooks; but there is ample evidence of a widespread desire for it, as shown by published accounts of investigations here and there pursued by practitioners of great ability. In the field of research concerning the intimate parts of the spine it was our heritage to lead; shall we be contented with merely joining?

As a mere worker, it seems to me that some of the main subjects to which attention should be most diligently applied may be listed as follows:

(1) the vertebral column viewed as an entity;

(2) the vertebral unit, composed of two adjacent articulated vertebræ;

(3) the intervertebral disk; the annulus lamellosus; the nucleus pulposus; the exonuclear lesions;

(4) the intervertebral ligaments; their innervation; their control functions;

(5) the apophyseal articulations; the mechanics of their displacements;

(6) the deep vertebral musculature; its innervation;

(7) the contents of the intervertebral foramen;

(8) the nerve sinu vertebral; its function as vasoregulator of the blood supply and drainage of the meningeal tissues and of others located in the vertebral canal and in the intervertebral foramina;

(9) the supporting or connective tissue; its

hygrometric properties; its role in edematous and inflammatory processes in relation with the lymphatic circulation;

(10) the purpose and physiological effects of the abrupt and intentional separation of the apophyseal articulations, with incidental "popping"; the physics of this latter;

(11) the analysis of the maintenance of the relative displacement of two adjacent vertebræ, or so-called "lesion," in a position within the normal range of motion, nevertheless permitting a certain amount of mobility;

(12) the pathological effects of the maintenance in a fixed position, either normal or abnormal, of the articulations of two adjacent vertebræ; the remedial procedure through osteopathic manipulation for such a condition;

(13) the analysis of the effects of osteopathic manipulation of soft tissues; drainage of the latter; abatement of congestive conditions; activation of arterial circulation; reduction of acidosis, hence of irritation both to the nerve terminals and to the trunks, and consequent appeasement of superficial and deep-seated tenderness;

(14) the costovertebral articulations; the influence of their disordered conditions upon the nutrition of the costal tissues, ligaments, musculature, bones, marrow and its hematopoietic functions; study of the development of eruptive disturbances such as herpes zoster, of costogenic anemias and toxemias, of the influence of the latter upon the genital functions.

Obviously many more items could be added to this program of chapters of research work, whose well developed ensemble would form, at the very least, a large volume of reference matter, of great practical interest to the profession. In Part I of this article the subject, "Exonuclear Lesions," was merely skimmed; its importance demands far greater degree of skilled treatment than was accorded to it. Some of the other items will be merely touched upon throughout these pages, and the writer will feel gratified if some of his suggestions should be found worthy of attention in our research laboratories and classrooms.

THE VERTEBRAL COLUMN IS NOT A PILLAR

There is a most regrettable lack of information in the usual textbooks and in the schools concerning the structure and function of the elemental organ; that is because attention has increasingly been too much absorbed by the intricate study of pathology of tissues, of complexity of symptoms, to realize the primordial importance of the sound knowledge of both the structure and *its function.* As a proof, and as concerns the knowledge brought to light by the pioneer investigators with that printed in our up-to-date books: Starting with Galen, in about 170 A. D. (Latin translation of 1550), we come to Borelli, 1680; then to Blancard, 1695, and finally to Alexander Monro, 1726, whose work "On the Anatomy of Bones" contains most precious information, of clearly outstanding value. It is based upon deep study of the authors cited above as well as keen individual research and observation. Since then, only a few details have been added, but nothing really fundamental, so that today we find that the philosophy of the subject, despite numerous desultory attempts, has remained at the same point to which Monro brought it some 206 years ago.

The spine has always been viewed as a strut, a column sustaining a vertical load increasing from the top to the base. The cervical region pyramided down to the base of the 7.C_v, then the column tapered down to about the 4.D., and thenceforth pyramided down to the base, that is the lumbosacral articulation. Made up of a succession of parts, or vertebræ, united by very strong fibrocartilaginous connections, the intervertebral disks, it formed a highly resisting, articulated assemblage which was considered as *an organ of sustentation,* capable of supporting not only the weight of the body parts attached to it, but also heavy loads carried by the individual. As a whole it had, like a twig, flexibility in all directions, but to a degree varying according to region; it was capable of rotation and of circumduction; and for each intervertebral articulation the same kind of motion had been carefully observed and recorded, although (according to Cruveilhier's Descriptive Anatomy, 1852) their detection is possible only through the study of the total displacements of the entire vertebral column.

It seems therefore that the notion has persisted through all ages that, since man is essentially *a biped,* intended by nature for the erect station, it was necessary to conceive that means of maintenance of that station should be in the form of a sturdy pillar. What more natural then could it be than to endow the spinal structure with the attributes of the long bones of the limbs intended primarily as compression members? This conception is now firmly rooted; our best textbooks dwell upon the attempts made to determine mathematically the strength of the spinal column; to compare it to the relative strength of a straight column, or even of a single elastic arc, and of a structure made up of several arcs. They tell us that the conformation of the vertebral canal, together with the yellow ligament linings greatly add to the resistance of the spine, etc. The best proof advanced, which should preclude any further argument, is the very fact that the spine is pyramided downwards, so that the lumbosacral articulation offers the greatest area of support, and consequently, cannot be otherwise than considered as the true base of a pillar, a column of sustentation. All these points are made in chapters devoted to articulations, which follow those dealing with the minute description of bones and ligaments. It is only further on, in myology, that the muscles, their attachments and their functions, actually enter the field.

It is most surprising, even inconceivable, that apparently no published work has thus far shown the utter material impossibility for the *normal spine*—considered *alone,* as an entity composed of an elastic assemblage of vertebræ and intervertebral disks—to act as a vertical supporting column. A well prepared spine, promptly obtained from a fresh subject, would not be able to sustain the weight of the head; that is quite obvious, although in this case a certain amount of rigor would obtain, which would stiffen up the structure. If the spine possessed an elastic rigidity of its own, that would always be evident in the living subject, but it is common knowledge that in states of extreme relaxation, exhaustion, of deep sleep, of loss of consciousness, of prostration, of syncope, and in some stages of inebriety, the human body is totally limp; the cervical spine is unable to sustain the head in equilibrium; the trunk cannot maintain a vertical position, even with the subject seated; in fact the body

is without control and may flex in any direction. It is also well known that in animals freshly slain there is a complete limpness.

Therefore, we are led to the logical conclusion that the spine—by itself—cannot be considered as a pillar, as a column of sustentation.

The characteristics of the spinal column as regards stability and resistance under a vertical load are about of the same order as those of a piece of rubber hose held upright upon a support.

At this juncture the writer communicated with Dr. H. V. Halladay, whose most skilfully prepared spines are well known by osteopathic practitioners everywhere, and whose opinion consequently is of precious value; with his kind permission we quote at random from his letters: "A person sits erect because certain muscles contract and maintain the body in that position. The natural tendency of the spine is to flex when the muscles are removed. With my specimens the same thing occurs, and when placed upright on the table they all flex or bend to one side or the other. The spine thus simply flexed by the gravity pull is maintained in that position by the resistance of the ligaments, but the flexion may be increased by forces applied by the demonstrator. The specimen will not spring back to the upright position any more than one could keep upright without the staying action of the muscles. . . . The same conditions obtain in a subject whose muscles are all flaccid. In the early part of my work we took roentgenograms of patients and observed the spine for the purpose of verifying this fact, and we found it true. But here is another interesting thing; if I turn the spine upside down, taking the weight off, or suspend it from the pelvis, it still retains the normal curves. Again, if I remove two vertebræ from the rest of the specimen, and then move the one on the other, the weight of the one above being so slight, they will resume what we might call "a position of rest," that is, about half way between the extremes of the normal range of motion. This proves that the ligaments of the spine offer some resistance to the extremes of movement, but not sufficiently to overcome completely the force of gravity. . . . The maintenance in the erect position is effected by the action of the muscles."

As seen laterally the spine is composed of three elastic arcs, anteroconvex cervical, anteroconcave dorsal, and anteroconvex lumbar, and it is evident that under a weight placed at the top each of these would be subjected to flexural rather than compressive stresses; and the curvature of each would be increased. In whichever way the load is applied there is no doubt that the structure is designed to withstand bending efforts; but *alone* it cannot any more withstand these than support a load; it is only when braced all along its length that the spine may be visualized either as a most wonderful and sturdy pillar, or as an equally wonderful lever arm, of great strength and of extraordinary adaptability to suit an infinity of attitudes and efforts. We understand fairly well the responses of the muscles to the voluntary nerve impulses, and less those to the involuntary stimuli; ceaselessly active for the purpose of insuring the equilibrium and healthy conditions of the structures, through imperceptible modifications of attitudes. Itself an inert organ, the spine becomes incessantly mobile when animated by the living forces controlling the body; such considerations justify the views expressed before which led me to define it "an animate beam."*

But we may go further and point out again a vast and yet unexplored field; that of the *ligamental sense*. It is the role of the muscles to obey in a coördinate manner the command of the nerves and to move certain parts; it is our conviction that the articular ligaments possess the faculty of sensing the extent of motion, and hence, of issuing a warning of the approach to the limit of normal motion, that is, of danger. There are many indications to that effect, but so far no definite study of the subject has been undertaken. It seems quite clear that the intervertebral disk and the apophyseal articulations must play a most important part in regulating the sectional displacements of the spine and consequently the latter, *when alive*, then ceases to be merely an inert assemblage of vertebræ and intervertebral disks, as just stated.

It is rather significant to find workers of other schools becoming increasingly interested in the study of some vertebral elements, a subject of the greatest importance to our profession. This matter will be given attention in a subsequent part, as well as in the bibliographic notes; for the present, an article by Drs. A. Jung and A. Brunschwig, in *Presse Medicale* of February 27, 1932, "Histological Research on the Innervation of the Articulations of Vertebral Bodies," may be mentioned in relation with the preceding paragraph. These doctors have traced a number of nonmedullated nerve fibers within the anterior and the posterior common ligaments, and they conclude that just as for the articulations of the limbs, studied by Rauber and Regand, (a) the innervation of the vertebral amphiarthrosis obtains only within the ligaments; (b) likewise the sensory elements are to be found exclusively therein; (c) therein are initiated the reflexes controlling the statics and the equilibration of the vertebral column, as well as the vertebral pains; (d) the nerves and the nerve terminals, although not numerous, are found mainly in the anterior ligaments and in much lesser amount in the lateral and posterior ligaments.

Taken at their face value these findings tend to confirm the deductions arrived at through elementary reasoning. It is in the nature of things that adequate safeguards be provided for every single part throughout its ephemeral life. And thus we would expect to find in this instance properly located means for sensing certain dangerous extremes of motion; for overextension of the vertebral column would badly affect blood vessels, nerves and ganglionic chains located and attached prevertebrally; likewise, to a certain extent would excessive sidebending. For detecting the limits of rotation and flexion, most probably other means will be found in the innervation of the yellow ligaments. For an interested investigator the problem is to verify such findings as just mentioned; to search for other traces of innervation relating to the apophyseal articulations; to discover the nature of the nerve terminals, hence by what means they are impressed, and whereto the impressions are conveyed; to find the nature of the reflexes and the mechanism of the resultant reactions. We readily perceive that what little bits of information are picked up by chance here and there in current literature, while precious indices in themselves, would enhance in value, if methodically brought forth in the course of systematic research endeavors.

*Guy, Albert E.: Vertebral Mechanics, Jour. Am. Osteo. Assn., July, 1930.

THE VERTEBRAL UNIT

We may fittingly term *vertebral unit* the working assemblage of two vertebræ, one intervertebral disk and two apophyseal articulations, since from the axis to the first sacral there are twenty such assemblages, and the characteristics of one are typical, that is, are common to all. Of these parts the disk seems to have received the greatest share of attention, while the last two, Cinderella-like, have been relegated to the scullery, as befit poor relations. As a matter of fact, these three articulations form the closest imaginable copartnership and must be considered all together in the study of the intervertebral joint. The disk has advanced from the state of *mucous ligament* of Galen and his predecessors, to that of cartilage, and finally has reached that of fibrocartilage of today. Monro says: "The external fibrous part of it is capable of being greatly extended, and of being compressed into a very small space, while the middle fluid part is incompressible, or nearly so, and the parts of this ligament between the circumference and center approach in their properties either in proportion to their more solid or more fluid texture. The middle point is therefore *a fulcrum* or *pivot*, on which *the motion of ball and socket* may be made, with such a gradual yielding of the substance of the ligament, in whichever direction our spines are moved, as saves the body from violent shocks, and their dangerous consequences. This ligamentocartilaginous substance is firmly fixed to the horizontal surfaces of the bodies of the vertebræ, to connect them, in which it is assisted by a strong membranous ligament which lines all their concave surface, and by a still stronger ligament that covers all their anterior surface." To this most fitting description, we may, with due reverence, add that the exterior fibers extend much farther inwards anteriorly and laterally than on the posterior aspect, consequently, as a container for the fluid mass, the annulus fibrosus is weakest posteriorly. Of course, there is no such thing as a middle point, or pivot, within a mass permeating the whole disk.

The notion of a ball and socket articulation brought forth by the ancients, and adopted by such authority as Monro, has remained practically undisputed, although palpably erroneous, probably because it represented an easy explanation of a problem, the importance of which had never been fully recognized. Some authors, like Morris, in his "Anatomy," have even taken upon themselves to emphasize it to the point of the ludicrous by providing blithely the only thing that was missing to make it exactly that kind of articulation; thus in part 1, page 222, of the 4th edition, we find that: "The *pulpy nucleus* or *central portion* is situated somewhat behind the center of the disk, *forming a ball of very elastic and tightly compressed material*, which bulges freely when the confining pressure of the laminar portion is removed by either horizontal or vertical section. Thus, it has a constant tendency to spring out of its confinement in the direction of least resistance, and constitutes a pivot round which the bodies can twist, tilt or incline. . . ."

Unfortunately there are lesser luminaries who dare not shake the *magister dixit* yoke, and cannot admit what is so readily perceived, that the nucleus pulposus has the same fluidity in man as in animal spines, which latter can be seen, in section, at any time of the day in a meat market.

Perhaps the simplest way to understand the intervertebral articulation is to represent it as a flat bag made of elastic material, like rubber, fixed on top and bottom to the faces of the vertebral bodies, and filled with a very viscous substance possessing no better elastic qualities than plain water. Assume that the substance is introduced under a slight pressure so that when the bag is sealed its peripheral wall is bulging a little. Now then, with one body held fixedly, the other may be inclined in any direction, circumducted, and rotated to some extent; it may also be axially pressed down upon the bag and still remain free to move. Whatever the motion it could be performed with far greater ease and freedom than could be obtained with a ball bearing, and particularly so, since there would be no *fixed pivotal point within the substance*, and this applies to the full in the case of lumbar vertebræ, each of which has an axis of displacement located posteriorly, away from the bodies. It is thus seen that such a bag serves (a) as a strong tie uniting two adjacent bodies; (b) as a perfect bearing instantly adjustable to all possible relative displacements of the bodies; (c) because of the elastic qualities of its wall, as a soft cushion; and (d) because of the viscosity of the fluid, as an ideal shock absorber capable of withstanding great flexural compressive efforts. The essential requirements are that the peripheral wall be sufficiently strong to permit incessant and rapid changes of shape of the bag, consequent upon the various displacements of the fluid, and staunch enough to prevent the extrusion of the fluid under pressure.

It is quite obvious that upon the puncturing or sectioning of the bag the soft mass would seem to spring out as if impelled by its own elasticity, whereas the same effect would occur with plain water, the cause being in each instance the release of the elastic tension of the wall.

In the actual intervertebral articulation the material of the wall is not compact like rubber, nor has it by far the elasticity of the latter; it is made up of flat fibers, or lamellæ, arranged weather-board fashion and reaching obliquely, at an angle of between 45 and 60 degrees, from one body to the other. A ring is thus formed of an assemblage of such fibers, and the whole wall consists of a relatively large number of such rings, or layers, concentrically and closely disposed, but in such a way that the obliquity of the fibers of one ring is the reverse of that of the preceding, so that in the end the whole is in reality a lattice-like structure. Its name, *annulus fibrosus*, is somewhat misleading, as suggesting the usual form of fibers; certainly, with round fibers, additional enclosing membranes would have been needed to insure staunchness; the overlapping of the lamellæ most adequately provides that; if this rather unique construction had been fully understood at the time, it is most likely that the wall would have been more fittingly named the *annulus lamellosus*. The obliquity of the lamellæ is a most helpful factor in maintaining staunchness under great pressures, as it provides a compensating arrangement to make up for the spreading of the fibers when the disk bulges out.

It is of utmost importance to bear in mind that the pulpous substance permeates the whole of the disk, and that while there is in the inner part an indefinite, amorphous, fluid mass called the nucleus pulposus, it does not form a separate entity, but instead, it is continuous with the intralaminar and interlaminar unctuous fluid.

Furthermore, we must dismiss the notion of an

elastic intervertebral articulation functioning just as the mechanical device instanced heretofore because, while the latter can spring back instantly to its initial alignment upon release from the deviating forces, the former is comparatively inert and requires the pull of the muscles immediately attached or distantly involved to change from one forced position into any other, and also to relaxation. The elastic properties of the lamellæ seem intended only to suit prompt adjustment to the conditions imposed by the deformations of the disk due to external efforts; they are of a totally different order from those possessed by the muscles; whatever elasticity they have is most wonderfully supplemented by their mechanically efficient disposition in oblique rows.

From these considerations we may now visualize the comportment of the disk in normal and abnormal activity. After the nocturnal repose demanded by nature to refect the human organism the height of the normal individual is slightly greater than it was at the beginning of that repose, that is, at the end of a period of strenuous and prolonged activity. The length of the bones has not changed, but the disks have been flattened appreciably, since with the spine as an animate beam the vertebræ are the compression members of the structure and the disks are, by construction, the only organs susceptible to deformation. This fact was well known by the ancients; Abbe Fontenu (1725) mentions further that man may become taller after a plentiful meal, while the reverse obtains after fasting or evacuations. Here we may place some personal observations on the effects of fatigue on stature. Years ago, before the laws were modified so as to impose general compulsory military duty in a certain European country, there was a minimum height of stature below which the young conscripts were exempted from service. An individual whose pate did not reach the minimum gauge limit was in luck, not good enough as *cannon fodder*. There were young men, however, who knew they could just scrape the gauge, and some who could overstep it by a trifle, sometimes as much as one centimeter; now what with necessity as the mother of invention, and with reliable *sub rosa* tips, those who thoroughly disliked military glory would make certain secret preparations just previous to inspection by medical authorities. With a rather substantial pack strapped on their shoulders and back they took to the road and walked a good many miles for several consecutive nights, with the ultimate and gratifying result that on the fateful day, when officially measured, they cleared the yoke handsomely. Of course, here and there alas, some foxy old major would cast a fly in the ointment by compelling the runts to take a complete rest for a full day in the hospital, following which, the test found them restored to normal height, hence bound for service.

We would suggest as an experiment that some of our students should endeavor to ascertain systematically, by careful measurements before and after, whether or not a thorough relaxing treatment may affect the height of a patient. We know fairly well that an extended course of treatment is likely to do it, as we found personally with a number of shellshock and hunchback cases, but that is quite a different matter; we remember particularly one of the latter, a subject 37 years old, with a badly distorted and rigid spine, who improved to such an extent that he gained 1½ inches in height—for which he thanked us—; he outgrew his clothes and was compelled to secure an entirely new photograph for his card of identity—for which he thoroughly berated us. (N.B. The writer is not even an aspiring candidate for the Ananias club).

AMPHIARTHRODIAL LESIONS

When the constituent parts of an organ are known it is easy to list the main derangements liable to affect each part specifically. Each derangement is a lesion, in the sense that it may cause some dysfunction of the part itself, of proximal tissues and possibly of distal organs. Unfortunately, in this instance, such lesions cannot be directly detected, and radiography is helpful only, if at all, in well advanced cases. The practitioner must then analyze all likely symptoms and gradually, through reasoning, he may finally locate the seat of trouble. The parts which should be well studied are: (1) the nucleus pulposus; (2) the annulus fibrosus; (3) the basement cartilages; (4) the common ligaments; (5) the periosteum; (6) the bony structure of the bodies; (7) the innervation and vascularisation of all the preceding. We have already dealt with a few phases of the extrusion of the pulpy mass, but very much more is required, for instance, regarding its formation, its maintenance, that is, its nutrition and elimination; its gradual transformation with age and fatigue into a fibrous structure; its susceptibility to the influence of cold, humidity, inflammatory conditions, sarcolytic extravasations from vicinal affected tissues, et cetera. All this applies in some manner to all the soft tissues concerned with the articulation. The bones may be split, fissured, eroded. The ligaments may be stretched, ruptured, repaired, spontaneously and with scar tissue formations. The periosteum may easily be involved when the ligaments are overstretched, and that may open the way to most serious consequences, exostosis with eventual ankylosis, osteonecrosis, et cetera. The subject is so broad that one is apt to feel discouraged when confronted with the few items mentioned here.

As to the origin of many of the disorders affecting the intervertebral articulation, it may be hereditary, congenital, faulty delivery, infantile disorders, malpositions, eruptive diseases, violent exertions, brutal shocks, careless athletic training, prolonged cold immersions, casual or imprudent exposures, and so on, and of course, accidents; all of which may be borne in mind when establishing the history of a case.

Knowledge of Cell Processes.—As another example of the slowness of progress in these fields we know but little more concerning the underlying conditions which cause a cell to divide than we did forty years ago, despite a host of explanations, mechanical, electrical and colloidal. So, too, despite an immense amount of study of the various elements of the cell, the nuclear structures, chondriosomes and other cytoplasmic segregations, we again have reached a point where progress seems difficult and the information accumulated to date almost infinitesimal in comparison with what we do not know of the functional activities of the cell. Nor have the most delicate procedures of biochemistry, such as the study of cell respiration and glycolysis, furnished complete insight into what lies behind this important energy-yielding process. The original assumption that these highly developed capacities were characteristic of neoplastic structures must be abandoned, for leukocytes and retinal cells possess the same capacity for anaerobic glycolysis as tumor cells.—A Text-Book of Pathology. By Francis Delafield, M.D., LL.D., and T. Mitchell Prudden, M.D., LL.D. William Wood and Company, 1931.

Conventions As Usual

ONE of the big causes for the shrinkage in the income of osteopathic physicians undoubtedly has been the widespread tendency temporarily to abandon many practices, considered excellent but not essential, owing to shortness of funds. "Shortness," not lack, of funds, be it carefully noted.

Take the practice of getting regular health examinations, for instance. If sickness or accident come, call the doctor. His service is essential. But to have the human machine, which runs twenty-four hours a day, overhauled regularly like the machines in factories which may run only eight hours at a stretch, is not essential. "A good thing, no doubt, when one can afford it, but not essential"; runs the reasoning of well-meaning people from East to West and North to South.

What would happen to engines and machinery, and to the human beings running them or dependent on them, if owners, managers, engineers, motorists, reasoned like that? When everything else is below normal, health above all else should be maintained; the human machine must be kept in good running order. The unusual strain of conditions makes it imperative. This is a splendid time for doctors of osteopathy to teach, and their clients to learn, that health inspection is essential to a well-run life. "Business as usual," should be a slogan for both doctors and patients.

As with the human machine, so with the professional. Conventions are the overhauling times of organized osteopathy—local, state or national. They test the organization's health and reveal its condition. We are too far advanced to doubt the value of conventions; it cannot be tabulated. They have proved and are proving real factors in osteopathic progress. But are they yet recognized as essential? How many of our members are like the persons who still have the cash but fail to see the commanding necessity for the periodic health examination in hard times? How many clearly see that the convention becomes more than ever an essential when general conditions are poor?

The osteopathic profession needs "Milwaukee 1933". An organization of health experts, claiming the right to guide the nation and its citizens in health matters and asserting their fitness to do so, simply cannot afford to neglect its own examination and overhauling. The men and women who have the responsibility of furnishing osteopathic service to their fellows should not only point, but even lead the way along the right path.

We hear much of the morale of the old-fashioned family doctor, how he not only cheered the sufferer in the sick room, but how he kept up the spirit of all the family when things in general went wrong, when the head of the household lost his job or his business or when depression struck the town. Has the osteopathic physician no influential morale, no communicable courage wherewith to hearten those with whom he comes in regular contact? He certainly has. Perhaps he ought to have more, as the representative of a school of healing which places such implicit reliance on Nature.

And a good convention should make those who attend it with earnestness and aspiration a finer group of human units, better fitted to meet and help their fellows in life's battle. It should strengthen their morale and strengthen their camaraderie, perhaps it should deepen their sympathy, as well as increase their science and improve their art. The very conditions which make the question of attending the national convention a financial problem make it all the more essential for us to be there. As a profession we need to keep at our best level, and there is mighty help to that end in a convention. We need "Milwaukee 1933."

C. H. M.

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NONSPINAL OSTEOPATHIC LESIONS—II

There is a considerable gap between the pathology produced by strictly spinal articular lesions and the totality of body pathology, as was pointed out last month. Nor are the mechanical causes of disease confined even to articular disturbances, either spinal or extraspinal.

It is highly desirable that a more thorough study be made as soon as possible of the much used, but not much studied, soft tissue technic. Perhaps the committee on technic of the Associated Colleges of Osteopathy will find it well to take up that problem as a supplement to the work it is now doing on spinal lesions.

It need scarcely be pointed out that the term, soft tissue technic, is not synonymous with massage. It includes many things from the actual replacing of malpositioned organs, through the "doming" of the diaphragm and the many phases of osteopathic manipulative treatment applied through the anterior abdominal wall to the various parts of the digestive and other systems, to the work by which muscles and nerves are directly effected.

Some of the neglect of nonspinal (and particularly nonarticular) osteopathic lesions has doubtless been due to a misinterpretation of the Old Doctor's incidental, but much quoted mention of "engine wiping."

Dr. Still would have been the last man to sanction the neglect of any part of the "engine." His knowledge of what constitutes normal tissue and his recognition of the presence of abnormal, was directly in line with the thorough understanding of his engine which the true mechanic must have. Such a man recognizes the vital importance of keeping every part in order and of giving early and thorough attention to the minutest difficulties and deficiencies of his machine.

So does the osteopathic physician consider every part of the living body. Far be it from us to minimize the importance of the osteopathic spinal lesion. In the words of the Great Physician we may say, "These ought ye to have done and not to have left the other undone."

"The other" includes a study of the reciprocity between "the outside and the inside" of the body; a study of the entire internal apparatus from the perineum to the soft palate with the constant piston-like action of the diaphragm; a study of the diaphragm itself and the relation of the celiac ganglia to its two crura; a study of the action of the at least partially independent nerve activities such as those of the enteric nervous system; a study of the origination of impulses from an inflamed biliary tract, from duodenal and gastric ulcers, from disturbed ureters, etc., and the effect of directly local nonarticular technic; a study of such conditions as herpes labialis and the influence thereon of technic applied to the nearby foramina.

These are given merely as a few examples and by no means as a catalog. The mere cataloging of the various pathologies and their effects, would not be sufficient anyway. A very real study of these conditions must and will be made. They are included in a field for investigation which has been seriously neglected. In fact, it might be said that they have been studiously ignored.

There is very serious doubt, if not an entire disbelief on the part of many, of the usefulness of such a study. A few individuals have courageously experimented in this field and some of them have thoroughly satisfied themselves that it offers a wealth of possibilities, the utilization of which presents a vital problem.

These doctors would join in emphasizing the fact that "These ought ye to have done and not to have left the other undone."

R. C. Mc. and R. G. H.

WHERE CREDIT IS DUE

More than twenty years ago, Hugh W. Conklin at Battle Creek, Michigan, began treating epileptics by the fasting method *plus* osteopathy—and he has maintained from that time to this that it was the "plus" that made the treatment so successful.

So remarkable have been the results, in fact, that there has been a tremendous revival of interest in the treatment of this disease. During many years previously little or nothing had been done in the way of developing a treatment, and no therapy was recognized except the use of bromides, which the "luminal" treatment has to a great degree supplanted.

Today, volumes are being written on the subject. The inspiration for all of this renewed interest and investigation and, in fact, for the origin and the development of the ketogenic diet treatment of epilepsy, lies directly and exclusively in this work by an osteopathic physician.

Few, if any, members of the profession, apart from Dr. A. T. Still himself, have been mentioned in allopathic literature in connection with a particular piece of work as often as Dr. Conklin has in articles on the treatment of epilepsy. These refer-

ences, grudging and incomplete and even misleading as they may be, are of tremendous significance as indicating what their writers really think of the importance of what an osteopathic physician has done. And the modesty of this man has resulted in very little being published about his work, in the periodicals of his own profession.

McLester, in the first edition of "Nutrition and Diet in Health and Disease" (Saunders, 1928) said:

> Fasting as a therapeutic measure in epilepsy was first prescribed by Guelpa; recently it has been extensively used by an osteopathic practitioner, who has claimed for it highly beneficial results. . . . There follows a ketosis to which the benefit of this treatment, if there be any, is credited. . . . The same thing has been accomplished by . . . the so-called ketogenic diet. (p. 658.)

In his second edition (1931) McLester began the discussion by saying:

> Conklin, an osteopathic practitioner, has for many years fasted patients with epilepsy and has achieved satisfactory results. (p. 752.)

The most recent allopathic reference to Dr. Conklin is in the new 12-volume "Cyclopedia of Medicine"[1]:

> Geyelin, some ten years ago, was the first under scientifically controlled conditions to show that patients having frequent seizures were often free from such seizures while fasting. These studies had grown out of empirical observations made by Conklin, an osteopathic practitioner. Geyelin's results with his first cases were so striking that the procedure was followed by a number of investigators. It was found, however, that benefit of fast lay in the acidosis which was produced, because of the incomplete combustion of fatty acids. (Vol. 5, p. 402.)

The statement that Geyelin "was the first under scientifically controlled conditions to show" that epileptic patients were free from such seizures while fasting, coupled with the later statement that "it was found, however, that benefit of fast lay in the acidosis which was produced" is both ironic and typical. "Scientifically controlled conditions" indeed! As a matter of fact, it has been found that the best results are obtained when osteopathic manipulative treatment is used with the fast *to prevent the development of acidosis.*

A few years after Dr. Conklin began his work, a boy in a very serious condition was brought to him and the results of the treatment were so striking that the boy's father caused research work to be undertaken in New York City and Cambridge, Mass.

H. Rawle Geyelin, M.D., was in charge of the work at the Presbyterian Hospital in New York City. Stanley Cobb, M.D., head of the neurology department of Harvard University, ably assisted by William G. Lennox, M.D., undertook the work at Harvard University in Cambridge.

The father of the boy in whom such remarkable results had been achieved, stipulated when establishing these research undertakings, that Dr. Conklin was to visit the laboratories as frequently as he could—if possible, once a month—and so to coöperate in the investigations. Dr. Conklin naturally wished an osteopathic physician to care for these cases because he knew that the manipulative treatment is important in his work, but this he could not secure.

This fact may have significance in connection with the further fact that the investigations at these laboratories continued only something more than two years. The research efforts, however, did not cease when the work in those two institutions was dropped. In fact, Dr. Lennox is now putting in all of his time studying and treating epilepsy.

The research work in those two institutions brought out many facts. What seemed most important to those in charge was that in the majority of cases there was a cessation of attacks during the fast. Another fact demonstrated was that a high acidosis developed during the fast.

The allopaths reasoned that the acidosis was the cause of the improvement and, as already stated, it is still being reported in the "Cyclopedia of Medicine" that "it was found" that this was the case.

This was the reason that the ketogenic diet came into vogue and that it was and is being used by a great many physicians all over the country. It is significant that Dr. Conklin himself, on whose work this development was based, considers the ketogenic diet a total failure except in so far as it may give a little temporary relief.

It is true Dr. Conklin's patients are hand picked. He does not accept cases willingly which have great mental degeneration, show positive Wasserman, or direct heredity, although he has been successful in a few of all of these three types of cases when they have insisted on his treating them. He has continually reiterated that in his judgment there is one type of epilepsy, which comprises probably 50 per cent of all the cases, which has its cause in the digestive tract, and he has tried to specialize in this particular type. His patients come from all over this country and even from England. After returning home they report monthly for the first year and then every three months. If there have been no convulsions at the end of the second year, they are considered well, but it is recommended that they still follow a careful diet.

Dr. Conklin has always insisted that osteopathic manipulative treatment must be supplied to force the body to eliminate the acids produced by the fast. His patients, therefore, do not show a high acidosis except at intervals and when this condition occurs the body can be forced to increased elimination by more frequent osteopathic treatment so that coma does not develop. Dr. Conklin says: "Acidosis will always develop in fasting, but it can be definitely and entirely successfully regulated and controlled by the osteopathic physician with his manipulative treatment."

In fasting numbers of patients over a period of time, a physician who does not practice osteopathy will inevitably find all of his patients showing acidosis. The research laboratories already referred to did have patients who went into a coma and patients who died. Apart from osteopathy, the only way open for checking acidosis is to break the fast, if patients show symptoms of coma, thereby sacrificing all that might be gained by longer fasting. A continuance of the fast after acidosis is evidenced, will result in coma, probably followed by death.

Reference has been made to the grudging credit

[1]This set of books, the work of some 600 contributors, is published by the F. A. Davis Company, Philadelphia.

given to osteopathy in allopathic literature. This has not been due altogether to the disinclination of those with whom Dr. Conklin has worked to give osteopathy credit: it has been partly due to political allopathic editors.

One of the allopathic investigators published an important article in *The Journal of the American Medical Association* and wrote to Dr. Conklin that he had been required to take out every reference to him or to osteopathy before his paper would be accepted.

Another of these men once asked Dr. Conklin to address the International Congress of Neurologists at its Philadelphia meeting, but he found that he could not make his invitation good.

Among the references to the osteopathic treatment of epilepsy in allopathic literature are the following:

Dr. Geyelin[2] said: "Work was begun by us on the treatment of epilepsy in the early part of 1919. It was suggested by the results obtained by an osteopathic physician, Dr. Conklin, in Battle Creek, who happened to have fasted a young cousin of mine for relief of the condition. The result in his case was 100 per cent successful in arresting epilepsy over a four-year period. Since then repeated fasts have been without avail, and the disease is rapidly becoming more severe." (Dr. Geyelin did not say that the benefits of osteopathic manipulation were not taken advantage of in the follow-up treatment of the case.)

Discussing a paper by D. A. Thom, M.D[3], Stanley Cobb, M.D., said: "The second recent advance is the starvation treatment started by Conklin, an osteopath, some ten years ago. The fast was carried out for from ten to thirty days; the convulsions ceased during the course of the fast in almost every case."

Lennox and Cobb[4] said: "Conklin, an osteopathic practitioner, has fasted hundreds of patients with epilepsy. The one article which he has written (1922) gave very few reports—the 'cure' reaching 90 per cent in children and 50 per cent in adults." [Of course Conklin has published more articles than the one which they recognize.]

Even members of the osteopathic profession have not been reminded sufficiently often that the modern allopathic treatment of epilepsy is an incomplete and comparatively ineffective outgrowth of an osteopathic discovery, ineffective because it is incomplete and founded on a lack of understanding. That is typical of the whole allopathic movement which is seeking to take over osteopathy. A shell—and not the essence at all—is being taken and the results may well be disastrous to all concerned.

[2]Geyelin, H. Rawle: The Relation of Chemical Influences, Including Diet and Endocrine Disturbances, to Epilepsy, *Annals of Internal Medicine*, 2:7, pp. 678-681 (Jan.), 1929.

[3]Thom, D. A.: Epilepsy, read before the Massachusetts Medical Society, June 13, 1922, and published in the *Boston Medical and Surgical Journal*, August 31, 1922.

[4]Lennox and Cobb: Epilepsy, Medicine Monographs, Baltimore: Williams and Wilkins, 1928, vol. 14, p. 131.

VARIATIONS IN THE RATE OF NERVE IMPULSES

When a sensory end-organ is stimulated by an appropriate exciting agent, a series of impulses passes over the nerve to which the end-organ is attached. This series of impulses can be measured and graphically recorded.

The records that have been made of the passage of a series of impulses over a nerve fiber show that the activity of the fiber is intermittent. The passage of impulses has been compared to the discharge of bullets from the barrel of a machine-gun. The fiber is capable only of intermittent activity.

Each impulse is followed by a refractory period, during which the nerve fiber returns to its resting ionic arrangement. This return to the resting state prepares the fiber to transmit another impulse. The whole process of transmission and return to resting ionic equilibrium takes place with rapidity. Some of the larger nerve fibers are capable of transmitting as many as four hundred impulses a second. The recordings of some of the smaller fibers have shown as few as five impulses a second.

"If these records give a true measure of the activity in the sensory nerve fibers it is clear that they transmit their messages to the central nervous system in a very simple way. The message consists merely of a series of brief impulses or waves of activity following one another more or less closely. In any one fiber the waves are all of the same form and the message can only be varied by changes in the frequency and duration of the discharge. In fact the sensory messages are scarcely more complex than a succession of dots in the Morse code."[1]

The statement in the above reference that the message can only be varied by changes in the frequency and duration of the discharge is of importance. A strong stimulus gives a frequent discharge of impulses while a weaker stimulus gives a more widely spaced grouping. This variation in the rate of impulses is observed experimentally when a single sensory end-organ is stimulated. The stimulation of the end-organ produces a regular series of impulses. An increase in the intensity of the stimulus results in a more rapid flow of impulses over the sensory nerve but there is no change in their recorded size on the graphic record. It is therefore presumed that the potential changes of each individual impulse remain the same, whether they be of greater or lesser frequency.

The important consideration here is that variations in the strength of the stimuli result in variations in the frequency of impulses rather than in their intensity. The rapidity with which impulses follow each other reflects the intensity of the stimulus that is acting on the nerve fiber. The knowledge of this fact contributes in some degree to the understanding of the yet imperfectly comprehended

[1]Adrian, E. D.: The Mechanism of Nervous Action, University of Pennsylvania Press, 1932, p. 12. (Note: In a later section of this volume the author proceeds to answer the question implied by the word "if" in the first sentence of this quotation. He concludes from his experimental work that these records *do* give a true measure of the activity of nerve fibers.)

phenomena of stimulation and inhibition, of synaptic activity and of the interchange of reflexes between the somatic and the visceral components of the nervous system.

R. N. MacBain.

DR. ELTON'S MEMBERSHIP STUDY

E. J. Elton, for many years the efficient secretary of the Wisconsin Osteopathic Society, made a careful analysis of the membership status of the various states. He arranged these states in five groups, those having a total osteopathic population of 200 or more, those having 100 or more and less than 200, those having 50 or more and less than 100, and those having less than 50.

He showed in each of those groups how many A.O.A. members there are and what percentage this is of the total osteopathic population of the state.

Dr. Elton arranged a convenient and attractive chart so that secretaries and membership workers in any state can easily compare its status with those of other states having somewhat near the same osteopathic population.

Unfortunately two serious errors occurred in connection with the publication of Dr. Elton's study in the April number of THE FORUM OF OSTEOPATHY. His name was omitted as the compiler of the statistics and the commentator thereon. As if this were not enough, a part of his chart became disarranged in the course of its reproduction so that the length of the graphic lines is not in every case correct.

Dr. Elton's presentation of the facts is worth the earnest study of members of the Association, and it is planned to reproduce it with the errors corrected in the next number of THE FORUM.

OSTEOPATHY AND THE EARTHQUAKE

Immediately following the California earthquake, the Long Beach Osteopathic Society established an emergency unit at the Pacific Clinic Hospital as a division of the Long Beach emergency relief work. KFOX in its hourly broadcast apprized the public regarding this unit on exactly the same basis as those in allopathic hospitals. Osteopathic physicians and registered nurses worked hard also at Los Angeles, handling all types of injuries.

Despite these facts, we may confidently look for a repetition of such statements as were published in the allopathic press some years ago in connection with a tornado, that the names of osteopathic physicians "were not included in the list of volunteer workers whose untiring efforts brought relief and comfort to many." Such statements may well come from the authors of the false and unfounded allegations that the low mortality rate in the osteopathic unit of Los Angeles County General Hospital comes because this unit has the pick of patients—which it never had.

The authors of such statements do not know, or do not want their readers to know, that in emergencies such as this earthquake, osteopathic physicians are not recognized as such and set apart from others doing work, because their surgical technic and their handling of emergency cases does not differ from those of other men.

Under more normal circumstances, of course, a greater difference is observed between the work of osteopathic and of allopathic surgeons. There would then be osteopathic preparation before operation and osteopathic care and treatment to add to the patient's comfort and well-being after operation.

But in the day of earthquake or tornado, the osteopathic physician and surgeon does his bit along with every other citizen.

OSTEOPATHIC CHILD STUDY ASSOCIATION

The report of the Research Committee of the Osteopathic Child Study Association, made at the time of its annual meeting, December 3, covered a period of approximately fifteen months, beginning in September, 1931, when Perrin T. Wilson, chairman of a special committee of the A.O.A., undertook to secure the support of osteopathic physicians for the enterprise of compiling 1,000 case histories of childhood accidents. The report shows that up to December, 1932, 277 cases had been reported by 38 physicians in 13 states and 2 provinces.

Special attention is called to the birth injury group which now numbers 24 cases. Birth paralysis, resulting from head injury and brain hemorrhage, is excluded from this group, which consists solely of reports of structural pathology in the torso or at the occipito-atlantal articulation. Cases of physical disability, from paralysis and atrophy of groups of muscles, predominate in this birth injury group. In all of the cases, except one of epilepsy where treatment was discontinued before the correction of structural lesions was accomplished, the results under osteopathic treatment were either marked improvement or complete cure. Three subnormal children showed an increase in the I.Q.

A particularly valuable contribution to the work of the research committee has been made by J. Louise Mason, who has reported 106 accident cases treated in the Emergency Department of the High School at Brockton, Mass. Dr. Mason's records are important both because of her superior opportunity to examine accident cases early and because her findings serve as a check upon the other material being compiled, which has come from scattered individuals. Dr. Mason's report presents a cross section of everyday accidents resulting from average activities of normal children. There is distinct advantage in the compilation of the findings of many physicians but the whole study is strengthened by having, as well, the record of group work such as this.

Membership in the Osteopathic Child Study Association offers an important means of promoting

osteopathic advancement. The membership fee is only $1.00 a year, which should be sent to the association headquarters at 40 Passaic St., Hackensack, N. J. Whether members or not, osteopathic physicians should support the research work of the association by compiling and contributing simple case records of childhood accidents.

INTERNATIONAL SOCIETY OF OSTEOPATHIC OPHTHALMOLOGY AND OTOLARYNGOLOGY

The matter of qualifications and certification of specialists of various sorts in the medical profession has been a moot question for several years. It has been difficult to evolve a system by which certification of the ability of specialists may be made with a reasonable degree of accuracy and dependability.

Perhaps in the osteopathic profession the American College of Osteopathic Surgeons may be said to have led in the effort.

Among those in the profession who have specialized in diseases of the eye, ear, nose and throat, the Eye, Ear, Nose and Throat Section of the Association first grew up. The American Osteopathic Society of Ophthalmology and Otolaryngology followed, and out of the leaders of that group the International Society of Osteopathic Ophthalmology and Otolaryngology was formed. This society has set up a board which will offer examinations to those seeking fellowship in the society as to their ability in the specialty represented. Fellowships are to be granted upon the basis of education and satisfactory grade in the examination before the board.

The officers of the society are: T. J. Ruddy, president; A. C. Hardy, vice president; James D. Edwards, secretary-treasurer.

At its recent meeting in Chicago the Executive Committee of the A.O.A. approved the organization of the International Society of Osteopathic Ophthalmology and Otolaryngology as constituted in its present constitution and by-laws.

Of the many methods of controlling and certifying the practice of specialties, this particular method is the most popular at the present time in medical circles.

While of course such a method does not have the backing of the police power of the various state boards of examiners, nevertheless there seems to be a very distinct moral effect arising out of an honest desire on the part of the practitioners of a specialty to prepare themselves properly for that field. There is a wide divergence of opinion as to the necessary preliminary work for specialties. They range from the view that it is necessary, before the adoption of a specialty, for the practitioner to have experienced at least five years of general practice, all through the gamut, to the belief of many, that the modern senior student with proper internship immediately following his graduation, having had opportunity to study a very large number of cases during that internship, is qualified immediately to take up specialty practice.

We take it for granted that the membership of the "International Society" is thoroughly capable of judging the ability of applicants for fellowship in its group, but we believe it inevitable that sooner or later the police powers of the various states will be invoked in an effort to control the practice of specialties and the educational requirements for such practice. While present boards of examiners in the various states are a vast improvement over the situation of twenty or thirty years ago, still we cannot believe that any of the members of any of those boards are satisfied that the final word has been said upon the problem of determining the fitness of any practitioner for general practice or specialty.

R. C. Mc.

ANOTHER LEADER GONE

The passing of Edwin C. Pickler on March 11, was a real loss to osteopathy. Dr. Pickler was one of the very earliest of osteopathic physicians and few have practiced as long, or with as few changes of location. He was an early president of the American Osteopathic Association and a leader to the end.

It seems only yesterday that we gloried in the fact that every former president of the American Osteopathic Association, with one exception, was still living. And now, within the space of less than four years, four of them have gone.

This is one of the signs that osteopathy has grown up. It is a forceful reminder that the elder generation harbors traditions and memories and information which should be cherished by us all. It is a reminder that these doctors should be encouraged to pass on the facts out of the wealth of their memories, and to write them down for the benefit of oncoming generations whether there be sufficient demand now to justify their publication, or whether they should otherwise be given permanence and preservation.

We cannot keep these men and women always with us, and it behooves us to utilize to the utmost those rich things in their lives which they are so glad to contribute for the general good.

EUROPEAN MEDICAL COLLEGES

In line with their efforts to standardize and lengthen the courses in medical colleges, the various official groups of organized old-school medicine have now attacked en masse the problem of graduates of European medical colleges.

It is obviously impossible for the various standardizing agents in the United States to enforce a curriculum upon European medical colleges.

The collaborating bodies in this country which are considering the matter of licensure of graduates from European medical colleges, include the Federation of State Medical Boards of the United States, the Association of American Medical Colleges, the National Board of Medical Examiners, the Council on Medical Education and Hospitals, the American Medical Association, and the omnipresent Board of Regents of the State of New York.

At the recent meeting of the Federation of State Medical Boards in Chicago the following recommendations to various state boards of examiners and to medical colleges were adopted:

1. That no American student matriculating in a European medical school subsequent to the academic year 1932-1933 will be admitted to any state medical licensing examination who does not, before beginning such medical study, secure from a state board of medical examiners or other competent state authority a certificate, endorsed by the Association of American Medical Colleges or the Council on Medical Education and Hospitals of the American Medical Association, showing that he has met the premedical educational requirements prescribed by the aforementioned association.

2. That no student, either American or European, matriculating in a European medical school subsequent to the academic year 1932-1933 will be admitted to any state medical licensing examination who does not present satisfactory evidence of premedical education equivalent to the requirements of the Association of American Medical Colleges and the Council on Medical Education and Hospitals of the American Medical Association, and graduation from a European medical school after a medical course of at least four academic years, and submit evidence of having satisfactorily passed the examination to obtain a license to practice medicine in the country in which the medical school from which he is graduated is located.

It is believed that there are 1,500 low-grade American students now in European medical colleges who will soon graduate without necessary clinical advantages, internships, or an examination for license such as is given in this country.

There is an increasing tendency for the members of state boards of examiners in various states to follow the lead of the Federation of State Medical Boards of the United States. This is gradually becoming a very potent influence in the formation of various state laws and in the revision of these laws. Its connection with the American Medical Association and the National Board of Medical Examiners puts it in a particularly powerful place to promulgate its activities.

This Federation offers the most important approach for influencing the state police powers in the respective states in order to enforce medical standards for licensure and ultimate practice.

R. C. Mc.

Proposed Amendments to Constitution and By-Laws of the American Osteopathic Association

At the Detroit convention, President Purdy appointed a committee on Constitution and By-Laws Revision consisting of Drs. C. D. Swope, chairman, V. W. Purdy, Ray B. Gilmour, John A. MacDonald, and R. C. McCaughan. A preliminary report of this committee is published herewith.

Amendments to the By-Laws contained in this report may be voted upon this year at the Milwaukee convention. The suggested constitutional revisions presented at the Detroit convention last year may receive final action at Milwaukee. Any proposed new constitutional revisions originating at the Milwaukee convention must receive final action at the 1934 convention.

REPORT OF COMMITTEE ON CONSTITUTION AND BY-LAWS

The following changes are suggested in the Constitution and By-Laws of the American Osteopathic Association:

CONSTITUTION

Article III—Component Societies—

Line 2, strike out the word "sectional."

Article V—House of Delegates—

Line 2, omit "state associations."

Line 4, omit the words, "and state associations."

Line 6, omit the words, "and of the state associations."

Amend by inserting, in the second paragraph following the first sentence ending, "who shall vote in case of a tie," the sentence, "The President of the American Osteopathic Association, or in his absence the Vice President, shall be the presiding officer of the House of Delegates"; and by striking out the last sentence of the second paragraph of the Article and substituting therefor the following: "Each divisional society shall be entitled to one Delegate and one additional Delegate for each one hundred (or fraction of three-fourths thereof) of the number of members of the American Osteopathic Association located in the territory represented by that divisional society."

(The amendment above was read at the 1932 meeting in Detroit and is to be voted upon at the 1933 meeting in Milwaukee.)

Amend the above pending amendment, by striking out the entire amendment and substituting the following amendment: Strike out, in the second paragraph following the first sentence ending, "who shall vote in case of a tie," the remainder of the paragraph, and substitute therefor the following: "The President of the Association, or in his absence, the Vice Presidents in order, shall be the presiding officer in the House of Delegates. Each divisional society shall be entitled to one Delegate and one additional Delegate for each one hundred (or fraction of three-fourths thereof) of the number of members of the American Osteopathic Association located in the territory represented by that divisional society."

(The last-named amendment may be acted upon at the Milwaukee convention inasmuch as its subject matter was introduced at the Detroit meeting.)

Article VI—Officers—

Amend by adding, after the words, "The officers of the Association shall be President," the words: "President Elect"; and adding, at the end of Article VI, the words: "The President Elect shall without further election become the President at the expiration of the full term of office of the incumbent President."

Article VII—Board of Trustees—

Amend by inserting after the words, "The Board of Trustees of this Association shall consist of the President," the words: "President Elect."

(The above proposed amendments to Article VI and Article VII were read at the 1932 meeting at Detroit and are to be voted upon at the 1933 meeting in Milwaukee.)

Article X—Amendments—

Line 4, change the last word, "it," to "them."

BY-LAWS

Article I—Divisional Societies, Sectional and Auxiliary Associations—

Section 2, strike out entire section.

Section 3, renumber as "Section 2," and amend by striking out, in line 1, the words: "or sectional associations."

Section 4, strike out entire section.

Section 5, renumber as "Section 3," and amend as follows: In line 2, strike out the word, "sectional." In line 4, strike out the word "grant" and insert the word "issue." In the next sentence, strike out the word "grant" and insert the word "issue."

Section 6, renumber as "Section 4."

Article III—Fees and Dues—

Section 1, amend by striking out, in the third sentence after the word "first," the word "year" and inserting the words, "and second years."

Further amend, Article III, by adding the following as "Section 6:" "A registration fee shall be authorized by the Board of Trustees for each annual convention, to meet all actual and necessary expenses including all entertainment features in connection with the holding of each annual meeting. Any amount remaining after all such expenses have been met shall revert to a Convention Fund."

Article IV—Delegates: Methods of Election and Duties—

Amend Section 4, by striking out in line 1 the word "state," and by striking out in line 5 the word "state." Further amend by striking out in line 7 after the words, "American Osteopathic Association," the words, "in that division" and by inserting the words, "located in the territory represented by that divisional society."

In Section 5, strike out the first sentence.

Article V—Meetings—

Amend Section 5, by striking out the last sentence.

Article VII—Duties of Officers—

Amend Section 1, by striking out, in the last line following "Board of Trustees," the word "and," and by inserting, after the words "Executive Committee," the words "and the House of Delegates."

Article IX—Departments, Bureaus, Committees and Sections—

Amend Section 2, by striking out, after the word "clinics" in line 2, the remainder of the section and inserting the following: "Industrial and Institutional Service, the work of the Legislative Adviser in State Affairs, the Committee on Osteopathic Exhibit Demonstration Clinics, the Committee on Osteopathic Exhibit in National Museum, the Committee on Osteopathic Film Publicity, and of such others as may, from time to time, be added by the Trustees. It shall have general supervision of all the Association activities directed toward the public and such other duties as may be fixed by the Trustees."

(The following amendment, passed by the House of Delegates at its annual convention in July, 1927, was inadvertently omitted from subsequent copies of the Constitution and By-Laws as printed in the yearbooks. It follows the second sentence in Section 4 of Article IX of the By-Laws:

"No appropriation shall be made by the House of Delegates except upon recommendation of the Executive Committee approved by the Board of Trustees, and all resolutions, motions or otherwise, having for their purpose the appropriation of funds shall first be referred without discussion to the Executive Committee. An adverse ruling on such motion may be over-ruled by a three-fourths vote of the House.")

Further amend, Article IX, by inserting, in Section 4, at the end of the next to the last sentence just preceding the words "Executive Committee" the words, "Board of Trustees or its."

Section 4 to be further amended (if above amendments to the Constitution are adopted) by inserting in the first sentence after the words "The Executive Committee of this Association shall consist of the President," the words, "President Elect."

Amend Section 6, by striking out, in the last paragraph following the word, "Association," the remainder of the paragraph and by inserting the words: "and shall hold two or more meetings for formal program as may, in the judgment of the Bureau of Convention Program, be deemed most practicable."

C. D. SWOPE, *Chairman.*

REPORT OF COMMISSION ON CODE OF ETHICS

[This report to be presented for action by the House of Delegates at the Milwaukee convention.]

TO THE EXECUTIVE COMMITTEE, DECEMBER 31, 1932.

Your commission appointed by President Purdy following the Detroit meeting, consisting of Dr. Harold I. Magoun, Dr. Harry L. Chiles and Dr. Arthur D. Becker, as chairman, to suggest revision of Chapter II, Article 1, Sec. VI of the Code of Ethics of the American Osteopathic Association, begs leave to submit the following report:

The section in question relates to advertising and publicity and in its present form reads as follows: "It is incompatible with honorable standing in the profession to resort to public advertisements or private cards inviting the attention of persons afflicted with particular diseases; to promise radical cures; to publish cases in the daily prints; to invite laymen (other than relatives who may desire to be at hand) to be present at operations; to boast of cures; to adduce certificates of skill and success; or to employ any of the other methods of charlatans."

Your commission appointed has given careful consideration to its assignment. Dr. Magoun prepared a questionnaire which he sent out to a large number of osteopathic physicians, including those who had been many years in practice; a number who were young in practice; to those who are in general practice, and to those whose practice is confined to specialty practice. A careful study of these returned questionnaires furnished the basis for an article by Dr. Magoun appearing in the December Forum entitled, "Revising Code of Ethics on Advertising." We have consulted with Dr. George J. Conley, who recently was chairman of the Bureau of Censorship, and with Dr. P. W. Gibson, the present incumbent of the chairmanship. We also wish to acknowledge much help and valuable suggestion from Dr. Russell C. McCaughan, our Executive Secretary.

It is difficult so to word a suggestion for revision as to cover the matter concerned. There is considerable difference of opinion expressed in answers to the questionnaire. It is obviously not possible to draft a section that will meet the approval of all. The attempt has been to make rather clear-cut and conservative rules of conduct which the commission feels are reasonable and constructive, and in keeping with modern trends in publicity.

The following is the text of proposed revision:

It is not compatible with honorable standing in the profession to resort to paid *advertisements* (such as printed cards, professional cards or display advertisements in newspapers; telephone directories; professional journals or lay publications; hotel cards; outdoor signs; lettering on doors or windows; radio broadcasts and so on), except as follows:

(a) Limited to a simple dignified statement by the *general practitioner,* institution or group engaged in general practice as to name, profession, address, phone, office hours, etc.

(b) Listing the organs or class of cases, but not the specific diseases treated by the individual or group who limits practice to a *specialty only.*

(c) Sanctioned by local custom and usage or approval by and under mutual agreement with the geographical or specialty group concerned and not so used as to the unfair advantage of any other individual or group.

It is compatible with honorable standing in the profession to *educate the public* (with educational literature or letters, or notices or other material put out by the National Association, its affiliated organizations, individuals in the profession or commercial organizations outside the profession; by the use of spoken voice over the radio, or to promote such education by news copy on the printed page; by addresses and other means not involving a financial consideration), as to what osteopathy or its allied specialties—and not the individual—may expect to undertake successfully. The methods and materials so used shall conform to the following standards:

(a) Such educational effort shall harmonize with the consensus and the best interests of fellow practitioners in the geographical or specialty group concerned.

(b) Such material shall be of the sort associated in the public mind with proper professional standards and not of such nature as to offend the intelligent friends of osteopathy.

Ethical conduct in either advertising or education precludes such practices as the following:

(a) Inviting the attention of persons afflicted with particular diseases.

(b) Publishing cases in the daily press or elsewhere.

(c) Listing oneself as a specialist when he is really a general practitioner who has developed special aptitude for a side line, or listing oneself as a specialist in two or more widely separated fields.

(d) Promising radical cures.

(e) Advertising free examinations (except in free clinics).

(f) Display advertising of unusual varieties.

(g) Or in any other way trespassing against the dictates of honesty, good judgment, fairness and professional decency and the tenets of the Golden Rule.

Questions involving ethics should be passed upon by the Bureau of Censorship of the American Osteopathic Association and its representative in local, or divisional societies. If no such representative exists, the officers of said societies shall function. In any case the issue is to be settled as nearly as possible in the light of the above provisions.

Approved:

HAROLD I. MAGOUN,
HARRY L. CHILES,
ARTHUR D. BECKER, *Chairman.*

Department of Public Affairs

E. A. WARD, Chairman
Saginaw, Mich.

COMMITTEE ON OSTEOPATHIC EXHIBIT DEMONSTRATION CLINIC

DELLA B. CALDWELL, Chairman
Des Moines, Ia.

"IT COSTS A LOT TO MAKE US WANT WHAT WE BUY"

It will cost a lot in service, and some money to make the great mass of people "want to buy" osteopathic service, and that "want" will be created through some type of publicity.

With the banking business on a sound basis, and confidence returning, the upward trend of business is not far in the future. The osteopathic profession should take advantage of the psychological time, and put every ounce of its available strength and resources behind ethical publicity movements to the end that a far greater number of people will "want to buy" osteopathic service.

State fair clinics, through their ability to reach a large number of people in a short time, will do more to create this "want" ethically and with greater spread, than anything else we can do. The Illinois Baby Clinic and the Iowa Adult Clinic have clearly demonstrated that fact. Now is the time to put on an active, effective campaign to arouse the profession in your state to this great opportunity as well as great responsibility, and to fill it with a determination to give osteopathy the most far-reaching publicity it is possible to give it, namely, state fair clinics.

Dr. Charles Mayo is reported to have said, not long ago, that the newspapers have done more to educate the public in a medical way than the doctors themselves have done. Are we going to sit on the fence and let the great opportunity for newspaper publicity afforded by state fair clinics go by and not grasp it?

State presidents, and state exhibits chairmen, let us set the osteopathic publicity ball rolling, and keep it rolling till the demands for osteopathic care are so persistent that opposition will be futile, and osteopathic service available not only to the average citizen, but also to those unfortunates in state institutions.

To accomplish this, we ourselves must have enthusiasm for osteopathy. Enthusiasm based on the solid foundation of God's natural laws; enthusiasm nourished through our coöperation with those laws as we apply them to God's masterpiece—MAN.

Every state should begin to plan *now* for a big publicity clinic at its state fair that accurately and scientifically demonstrates osteopathic practice.

Who will be the first to write for information and suggestions?

LEGAL AND LEGISLATIVE

A. G. CHAPPELL, Jacksonville, Fla.
Legislative Adviser in State Affairs

ARIZONA BILLS

A basic science bill passed the Arizona house and was sent to the senate on February 16.

A bill for a board of naturopathic examiners has been introduced in the Arizona house.

A new medical practice act was proposed but withheld from introduction until the basic science bill should be enacted.

CALIFORNIA BILLS

A bill has been introduced in the California legislature to provide for licensing and regulating x-ray apparatus and operators.

A bill has been introduced in California to prohibit anyone from contracting to furnish medical service without being licensed by the insurance commissioner. Schools, churches, lodges, labor unions, associations of employees, etc., were to be exempt from the provisions of the act.

A bill has been introduced in California to amend the medical practice act so that chiropody would include "the employment of any mechanical appliance of any nature or of any forcible means for the correction of any deformity of the foot or feet or the correction of malimposed bones thereof."

FOOD HANDLERS IN CALIFORNIA

The city council at San Diego voted in February to permit osteopaths and chiropractors to make physical examinations of applicants for food handling permits. This, of course, applied to those holding drugless physicians' licenses and not to those licensed as physicians and surgeons. The city health commissioners took the ground that the action was illegal and recommended immediate repeal. The city council acted in accordance with this recommendation and restricted the work of examining to physicians and surgeons including, of course, those of the osteopathic school.

CONNECTICUT BILL

A chiropody bill has been introduced in Connecticut defining "chiropody or podiatry" as including "the palliative and mechanical treatment of functional disturbances of the feet."

IDAHO BILL

In addition to the defeated osteopathic bill mentioned last month, another measure of interest to the profession was a bill for the establishment of a board of public health composed of the Idaho Board of Medical Examiners under the control of the Idaho Medical Society. Dr. McCauley reports that the measure was kept completely under cover with no press mention until it had passed the senate. Dr. McCauley secured news of the measure and broadcast it over the radio. Opposition at once developed and the bill was tabled in the house.

IOWA BILL

A bill to regulate the practice of naprapathy has been introduced in the legislature in Iowa providing that "the following classes of persons shall be deemed to be engaged in the practice of naprapathy: Persons publicly professing to be naprapaths or publicly professing to assume the duties incident to the practice of naprapathy; persons who treat human ailments by manipulation of shrunken ligaments and connective tissues." Osteopathic and other physicians and surgeons and licensed chiropractors "who are exclusively engaged in the practice of their respective professions" are exempt from its provisions.

KANSAS PUBLIC HEALTH OFFICERS

H. S. Claypool, Syracuse, Kan., was appointed county health officer of Hamilton county, February 7, 1933.

L. B. Foster, Jetmore, Kan., was appointed county physician for Hodgeman at the beginning of 1932.

B. L. Gleason, Larned, Kan., was appointed county health officer and county physician of Pawnee county, February 7, 1933.

MAINE PUBLIC HOSPITALS

An attempt was made to have the following conditions attached to hospital appropriations by the legislature of Maine:

"All hospitals in this state which receive any public funds, that have been or may at any future time be appropriated to assist in the care of residents of the state, shall admit to practice therein the licensees of the board of

osteopathic examination and registration of said state, who are in good standing and are qualified to practice obstetrics and surgery according to the laws of the state."

The public hearings developed a great deal of feeling and gave rise to a tremendous amount of newspaper publicity. The committee amended the bill to provide that osteopathic physicians might take their own patients to private wards of hospitals and then voted 6 to 4 against the passage of the revised draft. Final action had not been taken at the time of writing.

MARYLAND BILL

The profession in Maryland hopes to secure the passage of an amendment to provide that "osteopathic physicians shall have the right to make and issue health reports and certificates, except birth certificates; and shall observe and be subject to state and municipal regulations governing the making and filing of death certificates, the control of contagious diseases and other matters pertaining to the public health."

CATCH IN THE MASSACHUSETTS LAW

The attorney general of Massachusetts has recently called attention to the fact that the law in that state requires of applicants for license, graduation from a legally chartered medical school which gives a full four year course of thirty-six weeks of instruction each year. Most of those licensed since March 10, 1917, then, seem to have been illegally licensed and, in fact, comparatively few of the medical schools in the country meet the standard. A bill has been introduced to clarify the situation.

CHIROPRACTIC BILL IN MASSACHUSETTS

A bill has been introduced in Massachusetts to require the membership of two chiropractors on the state board. Chiropractic is defined as "the external treatment of the human spine by mechanical and manual means."

MICHIGAN PUBLIC HEALTH

R. M. Ashley, Wyandotte, Mich., was recently appointed to membership on the board of trustees of the state psychopathic hospital at Ann Arbor. (See March Forum, page 364, and April Forum, page 12.)

B. E. Crase, Battle Creek, Mich., was recently appointed relief doctor for Penfield county.

MISSOURI CORONER

Robert K. Glass, Fairfax, Mo., was elected coroner of Atchinson county by a large majority in 1932.

CHIROPRACTIC BILL IN NEBRASKA

A chiropractic bill was introduced in Nebraska defining chiropractic as "that system which teaches that disease is caused by interference with the transmission of nervous energy and that health is restored by locating and removing such interference."

CHIROPODY BILL IN NEW HAMPSHIRE

A bill has been introduced in the legislature in New Hampshire which defines a chiropodist "as one who examines, diagnoses or treats medically, mechanically or surgically, the ailments of the human foot, except the amputation of the toes or foot or the use of anesthetics other than local."

NEW MEXICO LAW

Eight osteopathic physicians in New Mexico secured the enactment of a new law over the combined opposition of 300 allopathic doctors, writing, wiring and appearing in person to oppose them. It defines osteopathy or osteopathic medicine as "that system or school of medicine which is taught and practiced in the standard colleges of osteopathy and surgery." Applicants for license must be graduates of a college requiring for graduation a four year course of nine months each "giving instruction in all the subjects necessary to educate a thoroughly competent and general osteopathic physician and surgeon, including obstetrics and surgery and embodying instructions in anesthetics, antiseptics, germicides, parasiticides, narcotics and antidotes, to teach principles of surgery and surgical diagnosis."

The subjects of instruction are outlined in much more detail in another paragraph.

The license "carries with it the title doctor and physician with right to practice as taught and practiced in the standard colleges of osteopathy and surgery." These doctors "shall have the same general rights as physicians or surgeons of other schools of medicine with respect to the handling of cases and including the right to register under the laws of New Mexico governing narcotics."

MORE STRINGENT RULES IN NEW YORK

Indications are multiplying that the Board of Regents of the University of the State of New York expects without further delay to enforce its ruling that, beginning September 1, 1935, an applicant for license must be a graduate of a college which requires two years of premedical college training before matriculation—which would mean that no osteopathic graduate will be eligible for examination in that state unless the colleges make radical changes in the preosteopathic educational requirements. No osteopathic college seems to contemplate now, or at any definite future time, instituting such a preosteopathic requirement.

OKLAHOMA BILLS

A bill has been introduced in the Oklahoma legislature to make it a misdemeanor for any hospital to refuse osteopathic physicians and surgeons the privilege of practicing in such hospital.

Another Oklahoma bill requires that the board of osteopathic examiners along with many other state boards must pay into the general revenue fund of the state 10 per cent of its gross receipts and providing that none of said boards shall maintain offices in the state capitol building or conduct any examinations therein.

OSTEOPATHIC BILL VETOED IN OREGON

The bill for an independent board of osteopathic examiners in Oregon was passed by both houses but vetoed by the governor—it is said on grounds of economy.

BASIC SCIENCE LAW IN OREGON

Although the basic science bill is said to have passed with much less majority than did the osteopathic bill and though it too provides for an additional board, it was signed by the governor and became a law.

OSTEOPATHIC RIGHTS IN OREGON

The attorney general of Oregon has ruled that osteopathic physicians have the right to fit glasses. He points out that an osteopathic license entitles the holder "to practice osteopathy and the science of healing as taught in the branches and embraced in the subjects covered by . . . examination." He says, "From this it is evident that such licentiates are granted the right to engage in the practice of medicine to the extent therein specified." He quotes Webster's dictionary as saying that medicine is "the science and art dealing with the prevention, cure or alleviation of disease." Since the osteopathic examination is "not limited to any particular part of the human body, but [takes in] every part of the anatomy and of the various subjects as applied thereto . . . therefore they include the human eye. . . . It is well known that one of the means of prevention, cure or alleviation of some of the ailments of the eyes is that of applying or fitting glasses thereto, and the object of such fitting or application and use of glasses can be nothing else than to prevent, cure or alleviate injury to, or disease of the eyes."

The optometry act says that "the provisions of this act shall not be construed to prevent any person duly licensed to practice medicine and surgery from treating or fitting glasses to the human eye." The attorney general says, "The language of this exception clearly includes an osteopathic physician, since he is licensed to practice medicine, including surgery."

WASHINGTON BILLS

A bill has been introduced in the Washington legislature to regulate and license the practice of sanipractic. Sanipractic is defined as "the science and art of applied prophylactic and therapeutic sanitation, which enable the physician to direct, advise, prescribe or apply food, water, roots, herbs, light, heat, exercise, active and passive, manipulation, adjusting tissue, vital organs and anatomical structure by manual, mechanical or electrical, instruments or appliances; or other natural agency, to assist nature restore a psychological and physiological interfunction for the purpose of maintaining a normal state of health in mind and body."

A bill has been introduced in the Washington legislature which would define chiropody as "the surgical, mechanical and medical treatment of bunions, corns, abnormal nails, warts, calluses and all superficial excrescences" not

including surgery or the use of other than local amputations.

WEST VIRGINIA

George C. Eoff, Wellsburg, W. Va., has been appointed county coroner for the year 1933.

FEDERAL SICK LEAVE REGULATIONS

President Hoover issued an executive order February 9 relating to sick leave for civilian officers and employees in the executive departments and independent establishments of the Federal Government (not applying to those in the Postal Service, Panama Canal Service, and Foreign Service abroad) providing that application for sick leave for more than two days must be supported by the certificate of a registered practicing physician or other practitioner.

Authority for the order was provided in Sec. 215 of the Legislative Appropriation Law, approved June 30, 1932, as follows: "That the so-called sick leave of absence, within the limits now authorized by law, shall be administered under such regulations as the President may prescribe so as to obtain, so far as practicable, uniformity in the various executive departments and independent establishments of the Government."

The order provided also that the minimum charge for sick leave shall be one-half day. The period in any one year shall not exceed 30 days, unless a longer period is especially conferred by law. Slight indisposition, or absence for medical examination, will not be sufficient for the allowance of sick leave. Absence for professional treatment by a dentist or oculist in his office is not allowable as sick leave, but this does not disallow sick leave for detention by illness or disability due to causes as to which dentist or oculist may certify.

This order has no relation to payment for professional services rendered by private physicians to Government employees.

Case Histories

FRACTURE DISLOCATION BETWEEN FOURTH AND FIFTH CERVICAL VERTEBRAE

Double Recurrent Dislocation and Manipulative Reduction Without Evidence of Cord Injury*

WM. WILLIS JENNEY, D.O.
Los Angeles

Complete unilateral dislocation of a cervical vertebra is comparatively rare. Such dislocation usually produces cord injury. When such cord injury is produced nearly all cases are fatal. The following case is of particular interest, because, despite double recurrence of the condition, and repeated manipulative reduction, there is no clinical evidence of cord injury.

Woman, 45, married, and with previous normal health, on May 29, 1932, at 11:30 a.m., was in an automobile accident, striking her head against the top of her car, forcibly flexing and side-bending her neck. She did not lose consciousness but immediately developed a severe pain in her neck and intense nausea, and soon vomited.

She was taken to a San Bernardino hospital near the scene of the accident, where a physical examination was made, a small scalp laceration was sutured, and roentgenograms were made, visualizing the dislocation. Her neck was immobilized with sand-bags and she was transferred by ambulance to the Los Angeles County General Hospital, Unit No. 2, arriving at 8 o'clock that night.

Examination showed a conscious, coöperative patient with a previously dressed scalp laceration, several bruises and lacerations, and complaining only of severe neck pain. She was still slightly nauseated and had vomited three times since the accident. She had perfect control of her extremities and had voided voluntarily, twice since the injury. A fairly comprehensive neurological examination revealed no abnormality of deep or superficial reflexes, no paralyses, no areas of anesthesia, hyperesthesia, or paresthesia, and a normal recognition of thermal changes and stereognosis.

Radiographic examination disclosed a complete unilateral, right anterior, dislocation of the fourth cervical vertebra upon the fifth; undisplaced fractures of the laminae of the fifth and sixth cervicals and a slight tip torn from

*From the Orthopedic Surgical Service of the Los Angeles County General hospital, Unit No. 2.

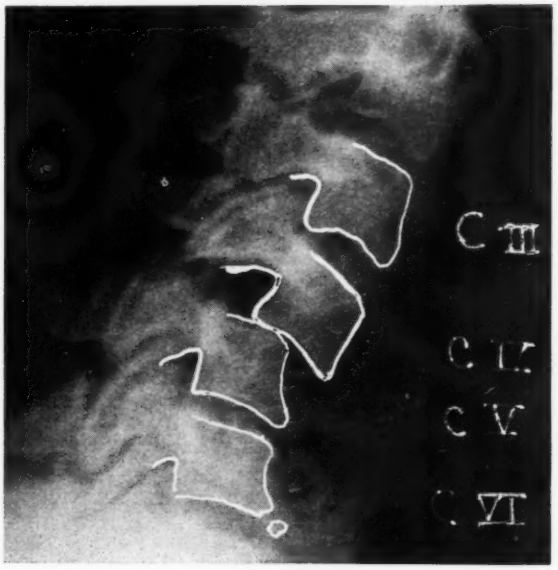


Plate 1. Lateral visualization of cervical spine showing disturbed relation between fourth and fifth vertebræ, and fractured tip of body on sixth. Fractured laminæ visible only in anteroposterior exposure. (Retouched to aid reproduction).

the anterior inferior margin of the body of the sixth cervical. In the lateral view, the body of the fourth cervical was displaced anteriorly two-thirds of its diameter.

Because of her excellent condition, speedy reduction was not imperative and while preparations for the procedure were being made, repeated neurological checks were made with the full comprehension and coöperation of the patient. At 1:00 a.m., May 30, it was found that the patellar reflexes were bilaterally increasing in activity, over previous examinations, some areas of paresthesia had developed on the lower extremities, and the patient was complaining of moderate abdominal distension.

Under deep ether anesthesia, correction was slowly obtained by slight traction followed by extreme left side-bending and then right rotation. During the side-bending there was cessation of breathing followed by two distinctly audible clicks during the rotation and then resumption of normal breathing. A head-harness (Sayre) was applied and with the neck immobilized with sand-bags, four pounds traction was applied, and roentgenograms taken showed perfect reduction of the dislocation without disturbance of the fractures.

June 2. A plaster collar was applied. The patient was comfortable at this time. Slight abrasion on chin from traction.

June 4. She suddenly twisted in bed, sneezed, and was conscious of a painless redislocation. Under ether anesthesia the dislocation was again reduced and a plaster collar and jacket applied. The roentgenograms taken at this time are reproduced with this article. They are identical with the first pair.

June 6. Redislocation during her attempt to suddenly turn in bed. No discomfort except for a feeling of drawing and insecurity in her neck. Reduction and casting as previously.

June 20. Discharged from the ward. Returned home in plaster, comfortable, and walking without help. From this time till September she returned to the Out Patient department from time to time for check-up. At the same time she was treated in the proctologic clinic for hemorrhoids.

September 1. Celluloid collar made and fitted by the brace-maker. Split plaster cast removed and this applied.

October 28. Comfortable in collar. Doing all her housework and driving her car for the past month and a half.

December 23. Comfortable. Radiographs show a rather dense amount of callus between the fourth, fifth, and sixth cervicals. There is a slight anterior slipping of the fourth on the fifth but this is arrested and ankylosis

Plate 2. Lateral visualization of cervical spine showing anatomical reposition of dislocated vertebræ. No change in position of fragment of sixth. (Retouched to aid reproduction.)

has occurred. There are no evidences of cord involvement.

In two or three more months there will probably be solid osseous ankylosis in the damaged area and the collar may be permanently removed.

Investigation was made to learn the cause of the clicks heard at the time of reduction, and at the third reduction roentgenograms were made following the first click and it was shown that half of the reduction had been accomplished, i.e., the right articular process of the fourth cervical was now riding on the top of the corresponding process of the fifth. The second view after the next sound showed the correction completed and the vertebræ in their normal relationship. These sounds were caused by actual bony contact during the reduction. They are not comparable to those produced during the usual specific osteopathic manipulative cervical technic.

SUMMARY

1. A patient with complete, right unilateral dislocation of the fourth cervical vertebra upon the fifth, fracture of the laminæ of the fifth and sixth cervicals, and with an avulsion chip from the body of the sixth, twice suffered recurrent dislocations during the course of treatment. There have been no complications and she is now well with no complaints.

2. Closed manipulative reduction of a cervical fracture-dislocation was done three times with no apparent injury.

3. Immobilization of reduced dislocated cervical vertebræ may be difficult. In the future we will aid external fixative apparatus by extreme extension of the cervical spine to create a natural block to redislocation.

(May I take this opportunity to express my appreciation to Carle H. Phinney, chief of the orthopedic section; Raymond P. Kellogg and J. J. Galbraith, resident physicians of the Osteopathic Unit for their help and suggestions in the treatment of this case.

ANTERIOR POLIOMYELITIS (COMPLICATED)

GIRAUD W. CAMPBELL, D.O.
Lynbrook, L. I.

December 18, 1932. The patient, a male aged 5 years 10 months, and showing a negative family and previous history, fell over backward striking the lumbodorsal region of the spine on a sled; there were no immediate apparent ill effects, but eight allopathic practitioners who subsequently saw the case seemed to attach considerable importance to the incident. There was no headache, disability or pain in the spine but later in the day the mother noted that the face was flushed and moderate fever present; she observed no other symptoms at this time; she assumed it to be the onset of a cold and gave an alcohol rub, enema, and a dose of castor oil and put the child to bed.

December 19. There was good bowel evacuation, with no symptoms present except flushed skin, slight drowsiness, and temperature of 102°. On this day an allopathic doctor was called and ordered an x-ray of the spine (which proved negative) but made no diagnosis and suggested no treatment.

December 20. Temperature 103°, but no other change which could be noted by the mother.

December 21. Fever continued and patient complained of pain in the upper dorsal region; mental and physical sluggishness became extreme, so that patient appeared comatose at times, lay quietly throughout the day, would move only when aroused, and would reply in monosyllables or not at all when spoken to. At this time he was taken to the ——— Hospital where x-ray plates of the spine were again made and reported negative.

December 22. Spinal puncture done and negative findings reported; however, this was followed by slight improvement in the patient's condition, the improvement continuing into the next day.

December 24 and 25. No appreciable change, doctor made diagnosis of pneumonia; antiphlogistine packs to chest.

December 26. While visiting the patient the mother noticed that he was unable to move his legs, and upon touching them noticed that he was not aware that she was moving his feet about in the bed. She became alarmed at this, but could get no information either from the doctor or hospital attendants, and of course did not know how long the condition had been present.

December 27. Temperature went to 96°, patient was comatose, with extreme pallor, skin cold and moist, and left eyeball rotated outward.

December 28. Blood transfusion performed, followed by slight improvement.

December 29. At this point patient was removed from the hospital and examined by myself and F. B. Cushman, Cedarhurst. Removal became necessary when I was refused admission to the hospital to treat the child. The superintendent explained that she was "rather particular" who was admitted to the hospital, and that only physicians who had passed the medical state board were allowed to treat patients there. When informed that I had passed the same board as the allopaths, she stated that there was an examination held by the hospital, which must be passed. During the period that the patient was in the hospital he was examined by eight allopaths, none of whom would give the mother any information as to diagnosis. The foregoing statements concerning the condition and appearance of the patient were all made by his mother, since the allopaths would give me no information whatever, nor would the hospital authorities permit me to see the chart. During the interesting discussion at the hospital it became necessary to explain in detail the difference between chiropractic and osteopathy.

When the patient was placed under osteopathic care examination showed constricted pupils; the eyes were dull; the skin nearly colorless; hemorrhagic sites of puncture in both antecubital fossæ and between the second and third lumbar spinous processes; heavy brown coating on the tongue; slight increase in vocal fremitus at the base of both lungs near the spine; the abdomen extremely distended and tympanitic to percussion; there were sensory and motor paralyses of both lower extremities, with marked atrophy and loss of muscle tone.

Reflexes—Patellar: Hyperactive on both sides. Abdominal: Cremasteric. Chaddock, Chaefer, Oppenheim, Gordon, Babinski, Brudginski, Hoffman, Kernig and ankle clonus were all negative.

The patient was very sensitive to light, sound and touch, crying out whenever touched on any part of the body except the lower extremities.

Nutrition was very poor; no lymphatic enlargement. Patient was complaining of pain in the upper dorsal region, and at frequent intervals emitted a piercing whine.

At this time temperature was 104°, pulse 130, and respiration 30.

Osteopathic treatment for anterior poliomyelitis was instituted. After relieving abdominal distension by repeated enemata he was treated for only fifteen minutes using gentle rotary motion throughout the spine, with no

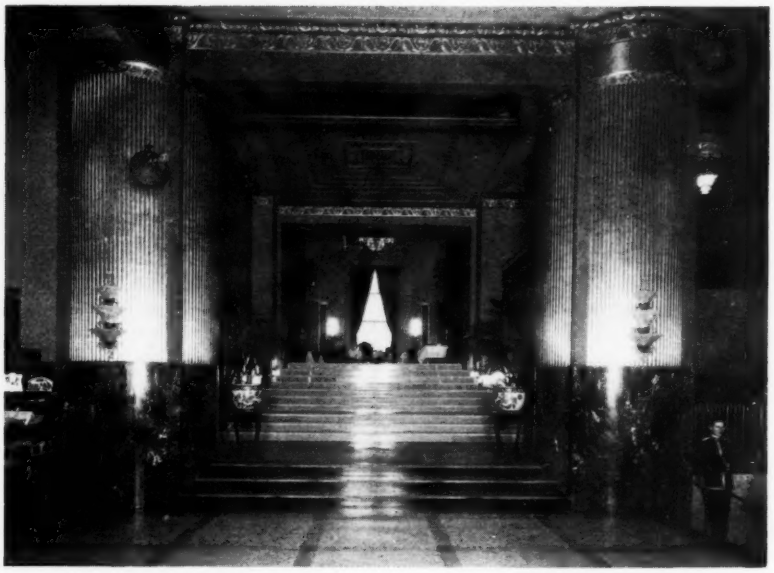
(Continued on page 332)

Thirty-Seventh Session of the American Osteopathic Association

Lectures

Discussions

Clinics



Exhibits

Fellowship

Vacation

Entrance to Dining Room, Hotel Schroeder

VISUALIZATION OF PROGRAM ESSENTIAL

Visual education is one of the most important phases in the practical application of instruction. There usually are many presentations on a scientific program that can be read in the quiet of one's library or office and the important substance contained therein obtained with a great deal of satisfaction.

The convention program being prepared for Milwaukee next July will not have a preponderance of that kind of material. To comprehend fully the practical points presented one must see as well as hear. Pictures, manikins, specimens, etc., will be there to be seen. They will be seen at the right time so that the full significance of points being made will be conveyed definitely and clearly to the listener. These parts of the program must be seen. The technic of doing many things must be seen.

There is a practical value in attending a convention that well repays the diligent. Oftentimes to learn a single fact will be worth the whole cost of the trip. There will be so many things demonstrated at this convention that cannot be adequately told that no matter how efficient one may be, still there will be something valuable obtainable, and that can be obtained nowhere else. Convention manuscripts will be published; technic will be described; but it will not be seen except by those who attend the convention. Pictures and illustrations convey full meaning only when accompanied by the authors' intelligent application of their significance.

The personal contact with the men and women who are fired with the enthusiasm of doing a good job thoroughly kindles one with new desires, ambitions and expectations that transform a dragging, lethargic mind into a dynamo, and clumsy hands into implements of an artist.

To start with, our scientific program will open Monday morning with Arthur D. Becker. His practical application, born of long experience and the close observations and recordings of his logical mind, will reach out to you to inform and inspire you.

Experience and careful study qualifies the next one on the program no less. Perrin T. Wilson will stimulate osteopathic thought and you will thank your stars you made the effort necessary to get there for the opening Monday morning.

Monday afternoon offers you the opportunity for vital contact with two speakers who will deal with subjects upon which the future of osteopathy very largely will be built, clinical research and care and delivery of the expectant mother. Ira W. Drew and Margaret H. Jones will give you something that will fire you to greater deeds and something that will echo throughout the nation.

I cannot tell you all now but you can rest assured that the sectional program chairmen will have programs for this first day as on all the other days that it will cost you money to miss.

A few high points for Tuesday are those presented by R. R. Peckham, C. B. Blakeslee, N. A. Ulrich, J. F. Smith and others. For your information, I must let you know that Dr. Peckham has collected data on "Osteopathic Treatment of Injuries" that will be unusually instructive. Words fail me when I try to convey what is being done that will make subjects like this and others something different. The background of preparation that will feature the presentations of C. B. Blakeslee and N. A. Ulrich will be of a like nature, practical, based upon experience in meeting the problems that confront the osteopathic physician.

No less important and with the same care and diligent investigation will be the discussion in psychology by J. F. Smith and others.

Wednesday will be no less a red letter day. Louis C. Chandler with his extensive clinical background discussing "Specific Osteopathy and Heart Diseases" and Louisa Burns giving up-to-date information on "Further Investigations Tending to Establish Osteopathic Tenets" could profitably fill the program for the entire day. But we must look to another practical side of practice, the "Business Side of Osteopathy". Few are better prepared to discuss this than George M. Laughlin. This sounds like a real practical treat. Wednesday afternoon, in spite of it being golf tournament afternoon, will find the program going on just as interestingly. H. V. Halladay will have something eminently worth while for you on "The Intervertebral Disk". You know he will have some interesting things for you. Just to make it even more interesting, if that is possible, E. R. Hoskins and C. H. Soden will discuss this subject. What a treat!

That isn't all. The subject of "Maintaining Mineral Balance" is so important right now that we must be up

on it. L. P. Ramsdell is prepared to give practical information on this. H. W. Conklin and H. C. Wallace are going to tell us where we go from here, and how. A lot more could be said about what they are getting stored up for us but that will be in the discussion of their subjects. You will have to see and hear. You will need your eyes these first three days but every day you will need them more and more. If it could all be described, you wouldn't need to come but it cannot and you will have to. You haven't been told anything yet as compared with what will be. And remember that there are two full days after Wednesday, to be described later.

THE SPIRIT THAT WINS

In accepting an invitation to discuss a paper that is to be presented on the general program at the Milwaukee convention, the doctor had the following to say: "Golf interests me very much. However, as I can play golf all year, it does not interest me during a convention."

It would be a detraction from the good influence of our convention if we didn't have a golf tournament. However, it is inspiring to find those willing to forfeit pleasure for the sake of making the scientific program more worth while.

The golf tournament will be held on Wednesday afternoon at one of the best courses in the environs of Milwaukee.

The general and sectional programs will carry on as usual from Monday to Friday at 3:00 p. m. Then we go to the Drake Hotel for buffet supper.

S. V. ROBUCK,
Chairman Convention Program.

STUDENTS WELCOME

A special invitation to students to attend the Milwaukee convention is being extended by the Wisconsin Convention committee as well as by the American Osteopathic Association.

No undergraduate student of osteopathy can afford to miss the valuable instruction which is offered free (except for the small registration charge) by the profession's outstanding men and women.

Write to Dr. W. B. Truax, 324 E. Wisconsin Ave., Milwaukee, for information as to student registration fee, special hotel accommodations for students, etc., or watch THE JOURNAL for future anouncements.

FRATERNITIES AND SORORITIES

This is the second notice calling attention to the importance of early arrangements for accommodations for all fraternity and sorority meetings. Tuesday night is set aside for this purpose. J. R. Jackson, Plankinton building, Milwaukee, is in charge of room arrangements at the Hotel Schroeder. If you want accommodations either in the Schroeder or one of the hotels the Schroeder operates, write to Dr. Jackson now.

HEIGH HO! COME TO THE FAIR!

The Chicago Osteopathic Association invites all who are in attendance at the A.O.A. convention in Milwaukee to be our guests at Chicago's Century of Progress Exposition immediately following the convention.

In spite of depression, moratoriums, and everything else this City by the Inland Sea is putting on a show different and more elaborate than any attempted before. It will be put through completely as planned and will open on time.

Our plan is to gather the convention as soon as it is closed, Friday, July 28, at 3 p. m., and whisk it one hundred miles south. The whisking will be accomplished in not more than two hours by special trains or busses or motor caravan according to individual preferences. Extremely favorable rates are available for each method of transportation.

The Drake Hotel will be your headquarters in Chicago and can accommodate the entire convention. A room and bath for three dollars a day at a hotel of the quality and prestige of the Drake is something to talk about. A buffet dinner will be served Friday evening, July 28, at the Drake which should be a happy, informal affair and will help to ease up the tension incident to a strenuous week of conventioning.

At 8:30 p. m. we board the steamer Roosevelt for a night view from the lake of the spectacular Exposition illumination. We have already reserved the best portion of the boat for our exclusive use. If enough will come we will commandeer the entire ship. This trip will be beautiful beyond words yet restful or stimulating according to your individual mood, on that evening. After a panorama of Chicago's night skyline we return to the Drake.

Busses will pick us up at the Drake on Saturday morning and take us directly to the Exposition. Here we will be officially welcomed by the Exposition officials and then the Exposition is yours to do with as you prefer.

At the Milwaukee convention the Drake Hotel will be represented so that you may register and forward your baggage so that it will be in your room waiting for you and you need simply to call for your room key on arrival. The various transportation methods also will be represented so that on your arrival there will be no time-consuming details to bother you.

We will have a wonderful Exposition in a wonderful city. The Chicago Osteopathic Association wants and urges you to enjoy both and we want to make even your enjoyment more complete.

E. R. HOSKINS,
President, Chicago Osteopathic Association.

WISCONSIN

Beautiful Wisconsin . . . where the tall pines reach to the sky . . . where shimmering lakes, like precious gems, lie in rugged settings . . . where the deer come down to the water's edge in the twilight, and the loon's call is the only curfew of the wilderness; where rolling green hills, dotted with herds of splendid cattle, pat-

Guest Rooms, Hotel Schroeder, Milwaukee

terned with trim squares of fertile furrows, tell the story of Wisconsin's great dairying and farming reputation.

This sounds like an extravagant prospectus, but the most vivid descriptions of Wisconsin's attractions can scarcely convey the scope and advantages of the state's rich natural endowments. It is truly a gigantic playground during the summer. Six million people come to Wisconsin every year to enjoy its recreational facilities. The popularity of the Badger state as a vacation land is attested by the fact that business with tourists is its fourth largest industry.

Two thousand beautiful inland lakes are the chief reasons for Wisconsin's fame as a summer playground. Most of them are situated in the northern part of the state, although the southwestern portion also has a good share. In fact, there are beautiful inland lakes within twenty minutes of Milwaukee by automobile or train.

Tiger muskellunge, pike, pickerel and bass are the fish most angled for in Wisconsin lakes. And though thousands of enthusiastic Izaak Waltons pull out their individual shares of five, ten and fifteen-pounders (forty-pound muskies are not a great rarity in these waters), the lakes are always well stocked. A system of state fish hatcheries takes care that the supply of fish life is replenished each year.

Besides fishing, Wisconsin's lakes are ideal for swimming, sailing, boating and hunting, and these sports are ever popular among vacationists who seek to escape from the confinement and heat of the city.

Wisconsin has been building the reputation for having the best roads of any state in the Union. With a few exceptions in the more remote localities, the highways are concrete or macadam. All are well marked. The main arteries in the vacation territory are built through the most enchanting natural beauties imaginable. Proud of the loveliness of its great outdoors, Wisconsin has taken care that motorists should see the best of it.

Information about the vacation possibilities in Wisconsin and any data on routes and resorts may be obtained from The Milwaukee Journal Tour Club, Milwaukee. This organization has been guiding vacationists for twenty years to Wisconsin's many playgrounds.

A CENTURY OF PROGRESS

A world of wonder concentrated into 424 magic acres of land and water. An encyclopedia come to life, with thrilling chapters told by means of animated displays.

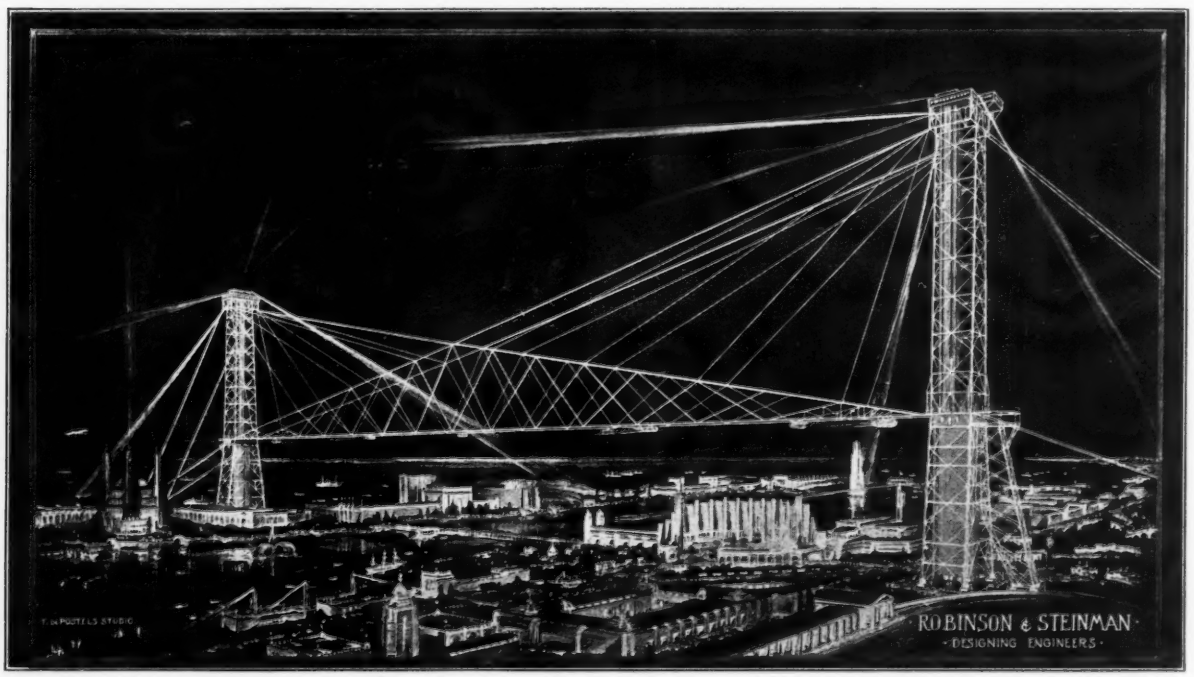
The world of today, the world of tomorrow and the world of yesterday, will be placed on parade. Attractions of historic and educational interest, which would require a trip halfway round the world if one sought them individually, may be seen here for the admission price to the grounds—fifty cents for adults and twenty-five cents for children, exactly what it was to the World's Columbian Exposition of 1893.

The general admission will open the gates to a world of enchantment—new wonders of science, and industry, new architecture, new thrills, new diversions, new ideas—presented in a setting of green parks, mirror-like lagoons, flower gardens, and tree-lined drives.

The general gate admission will admit one to all the exhibit buildings constructed by A Century of Progress, including: (1) Agricultural Building; (2) Communication and Radio Building; (3) Dairy Building; (4) Electrical Building; (5) General Exhibits Group of five pavilions; (6) Hall of Science; (7) Hall of Social Science; (8) Home Planning Hall; (9) Mayan Temple; (10) Hall of States and (11) Travel and Transport Building. It will also admit one to those exhibit buildings constructed by outside interests, namely: (1) Federal Building; (2) Illinois Host Building; (3) American Radiator Building; (4) Christian Science Monitor Building; (5) Chrysler Building; (6) Edison Memorial; (7) Firestone Building; (8) General Motors Building; (9) Johns-Manville Building; (10) Hall of Religion; (11) Sears-Roebuck Building; (12) Southern Cypress Building; (13) Time, Inc., and (14) the eight modern homes in the Home and Industrial Arts Exhibit.

By day the grounds will be a fascinating panorama of color, with crowds of people moving against the background of windowless buildings. By night they will be transformed into a fairyland of light, bathing the buildings in mellow tints and projecting an everchanging series of spectacular lighting effects.

While the story of science's contributions to human progress will be the nucleus of the exhibits scheme, it will not be a dry and uninteresting presentation, but a vivid, swift-moving spectacle.



Drawing of the "Sky Ride" which will be one of the spectacular features of Chicago's 1933 World's Fair—A Century of Progress Exposition. Two steel towers, 625 feet high and 1,850 feet apart, will be connected by cables at the 200 foot level, over which rocket cars will carry passengers.

Lincoln-Berry store (left) where Abraham Lincoln clerked in New Salem, Ill., a hundred years ago, and Lincoln's boyhood home in Indiana (right) reproduced in the Lincoln Group in Chicago's 1933 World's Fair.

Scientists on the staff of the Exposition, aided by members of the National Research Council, have prepared exhibits that will unfold in entertaining, understandable fashion, many of the mysteries of nature in the great Hall of Science. Physics, chemistry, mathematics, biology, geology and astronomy and their contributions to human progress will be presented.

These exhibits, together with hundreds of others showing advancement in the mode of transportation by train, automobile and steamship, the new and old systems of agriculture, the epic story of electricity, the century's advance in a thousand and one industrial processes will be shown free of charge to the millions of persons visiting the Exposition this summer.

A Century of Progress, however, will not be merely an instructive or educational celebration; there will be features to thrill and delight visitors of all ages. People visit world's fairs primarily to be amused and made to wonder. They may be educated by what they see and their minds enriched by new ideas acquired, but essentially they are in a holiday mood, receptive to thrills and recreation.

For this reason much thought was given to the development of amusement features. On the Midway will be breath-taking rides and thrilling amusement attractions. Elsewhere will be colorful historical reproductions, exotic presentations of the life, rites and customs of people of distant lands, historical pageants, music, sports programs and entertainment features of new and unique description.

The supreme amusement thrill of the Fair will be the Sky-Ride. The lofty towers of this $1,200,000 attraction, will be 628 feet high—taller than the Washington Monument or any Chicago building.

At the 200 foot level the towers will be connected by steel cables, along which suspended rocket cars will travel back and forth across a mirror-like lagoon. The span between the towers will be 1,850 feet, greater than the span of all but a few of the huge suspension bridges of the world.

Never before have such elaborate preparations been made for entertaining children. The Enchanted Island, or official children's playground, is already rapidly approaching completion on Northerly Island. Here youngsters may romp in a story-book atmosphere while their parents are viewing the sights of the Fair.

This land of make-believe will feature a magic mountain, a tiny railroad which winds its way over strange lands, through weird caves and along the shore of an apparently boundless ocean; a children's theater, trained animals and clowns.

For motorists who drive to Chicago there will be officially certified tourist camps on the outskirts of the city. Here the automobile driver may leave his car with perfect safety and commute to the grounds on rapid transit lines.

Fourteen major highways entering Chicago will have special names and markings reaching seventy-five miles out. Each will be named after the major industry in which it is located.

Every detail for the comfort, convenience, entertainment and amusement of the visitors, at the lowest cost possible, is being given expert attention. The Exposition will run for 150 days and will be a place of charm and fascination to which people will want to return again and again.

BUSINESS SESSIONS AT MILWAUKEE

Members of the Executive Committee, the Board of Trustees and the House of Delegates will be interested in knowing as far as possible in advance when and where these bodies will hold their meetings at Milwaukee.

Others having business with these groups will do well to make arrangements with the Executive Secretary or other officials as early as possible. It is necessary to schedule every minute of the time because there is such a tremendous volume of work. Outlines of work for each group will be prepared as far in advance as possible.

The Delegates will have opportunity to attend the general sessions, unless committee meetings interfere, but there will be no rest from official business for Trustees.

The probable schedule for each of these hard-working groups, over each of which President Purdy will preside, follows:

Parlor A—Fourth Floor—Hotel Schroeder

The Executive Committee

Saturday, July 22 — 9:00 a.m.-12:00 m.

Board of Trustees

Saturday, July 22 — 1:30 p.m.
Sunday, July 23 — 9:00 a.m.-12:00 m.
1:30 p.m.- 6:00 p.m.
7:30 p.m.
Monday, July 24 — 2:00 p.m.- 4:00 p.m.
Tuesday, July 25, Wednesday, July 26, Thursday, July 27 — 10:00 a.m.-12:00 m.; 2:00 p.m.- 4:00 p.m.
Friday, July 28 —10:00 a.m.-11:45 a.m.
11:45 a.m.—Installation of officers
2:00 p.m.- 3:00 p.m.

(It may be necessary to call evening meetings in addition to those scheduled but the President's reception on Monday evening, fraternity meetings and reunions on Tuesday evening, and entertainment features on Thursday evening will be respected.)

House of Delegates

(Place of meeting to be selected)

Monday, July 24 — 4:00 p.m.- 6:00 p.m.
Tuesday, July 25, Wednesday, July 26, Thursday, July 27 — 8:00 a.m.-10:00 a.m.; 4:00 p.m.- 6:00 p.m.
Friday, July 28 — 8:00 a.m.-10:00 a.m.

(Mr. John W. Kaiser of the Master Reporting Company will act as convention reporter. He has for the past two years reported the midyear meetings of the Executive Committee to the utmost satisfaction of the officials, and has been secured to replace J. L. Allen, who has resigned after many years of faithful hard work for his Association.)

TRANSPORTATION COMMITTEE

P. E. ROSCOE, Chairman
1001 Huron Road, Cleveland, Ohio

The Chicago, Milwaukee, St. Paul and Pacific Railroad has been appointed the official route from the Pacific northwest to the Milwaukee Convention and the World's Fair.

Earl R. Hoskins, President of the Chicago Osteopathic Society has concurred in this choice by naming the same route as the official road from Milwaukee to the World's Fair for the postconvention trip.

Full details concerning transportation will be published in an early issue.

American Osteopathic Society of Ophthalmology and Otolaryngology

THE SINUSES AND DEAFNESS

C. C. REID, D.O.
Denver

COMMONNESS OF CHRONIC SINUS DISEASE

It is quite common for persons to come into the office giving a history of sinus disease existing for six months to six years or longer. They may or may not have been to a doctor; usually they have seen more than one. Some of them have had several operations. Probably one person in five has some degree of chronic sinus disease. Sometimes it dates from an acute attack. It may come on insidiously.

It is frequently called chronic catarrh when in reality it is sinus trouble. The nose keeps up more or less drainage, anteriorly or posteriorly or both. The infection may be in one sinus or in a number, sometimes infecting all the sinuses of the head—the middle ear and the mastoid included.

Many children with running noses have infection of their small sinuses. In the diagnosis of disease in children with running noses a very careful check should be made to determine whether they are having allergic reactions, chronic colds, deformities of the nose, or sinus disease.

COMMONNESS OF DEAFNESS

By deafness we mean the condition of the individual who has lost a part of his hearing, not of one who is completely deaf. It is estimated that there are at least 20,000,000 deafened people in the United States; that is, their hearing is below normal by five per cent or more.

The deafness we find is nearly always of a mixed type. There are a few cases of pure obstructive deafness. There is perhaps more pure nerve deafness than there is pure obstructive deafness, but there is much more mixed deafness than either of the other kinds.

Why is it we have the element of mixed deafness in practically all the deafened individuals? The sinus problem partially explains the situation. In our practice, numerous cases come into the office complaining of catarrh, running nose, sinus trouble, and impediments to their nasal respiration. They make no complaint whatever about their ears and give a negative history in regard to them—never any stuffiness, any earache or suppuration, and no complaint of any degree of deafness.

With that kind of history it was not our rule always to make a tuning fork or an audiometer test of the ears. We found, in a high percentage of our patients whom we were treating for deafness, some degree of sinus disease. For best results this had to be treated concurrently with the deafness.

Some two years ago we decided to examine some of our sinus cases by the tuning fork and audiometer test, even though they made no complaint whatever of their ears.

CLINICAL DISCOVERY

We found that these cases were all losing their hearing. For over two years we have made it an absolute routine to make a complete hearing test on every chronic sinus case, even though the history of ear trouble was entirely negative and there was no complaint whatever of losing the hearing. We never have found one single case that had chronic sinus disease that was not losing his hearing. There may exist some exception to this. In our routine examination of hundreds of cases we have yet to discover one. We have found some where the C2 tuning fork showed above normal, both by bone and by air. This was the early stage of the loss of hearing. The toxic irritation to the nerve was still in process and the resulting hyperesthesia caused the hearing to go up somewhat before coming down in that pitch. When we ran the whole gamut, however, from the C64 to C8192, and took the average, we always found the hearing subnormal at one or both ends of the scale. The lowest sounds are destroyed first by the obstructive process of the mixed deafness and the highest sounds are cut off by dullness of the perceptions.

MORE CAREFUL EXAMINATION NEEDED

Taking the history of any case in a general diagnosis, many things are ruled out by elimination; consequently, diagnostic methods are not always used, which might be used, because there is no complaint in the history of trouble in certain parts of the body. Then, too, if only one or two tuning forks are used in a hearing test, the deafened condition may be entirely overlooked; especially since the patient minimizes the importance of it because he does not yet realize that he is losing his hearing at all. The daily routine of life of the average individual does not require an acute hearing. He can lose about twenty-five per cent of it before he even appreciates the fact that his hearing is deficient at all. When he begins to realize his handicap, it has become great enough that it is a serious problem; and as he becomes older in life, he gradually goes down hill. When he feels that handicap very seriously, he will go to some doctor who will make the tests and find his hearing considerably below normal; and who will give him an unfavorable prognosis, very frequently. He has a condition known as chronic progressive deafness. Perhaps the doctor will blow out his ears awhile and medicate his eustachian tubes, only to discover later that the process has grown considerably worse. This is the common experience of this type of case.

The average old person who has reached sixty or seventy is considerably deafened. This is not because he is sixty or seventy years of age but because the deafness was neglected in its early beginning in his twenties, thirties, or forties; and when it was discovered it was usually treated improperly. The tragic thing of it all is that the doctors did not discover these early beginnings of deafness and stop their progress by cleaning up the condition.

When the person is still young and the process is in the early stages, it is all right to check up the gastro-intestinal tract, the various focal infections of the teeth, tonsils, gallbladder, and appendix, the endocrine condition, the vitamins and other dietary, etc., along with the mechanics of the body. Let us remember, however, that any person who has chronic sinus disease is losing his hearing and needs careful treatment not only for the sinuses but to conserve the integrity and life of the eustachian tube, middle ear, and labyrinth, by proper treatment applied for the pathology there as well as in the sinuses.

The following is a summary of examinations of 100 patients who had chronic diseased sinuses. Only a few of the worst cases came in primarily for their hearing, but many did not realize they had a loss of hearing. According to our observation, the patient seldom notices that he is losing his hearing until it is about thirty per cent gone. If he is a musician or doing other fine work that demands hearing above that of the average person, he may notice some discrepancy in his hearing at eight or ten per cent. In toxic and mixed deafness cases they will hear above normal with some of the tuning forks, but when it is averaged over eight pitches, running from 64 D.V. to 8192 D.V. it uncovers the deafness in every case.

Number of cases examined	100
Number of cases with partial deafness	100
Number of cases with normal hearing	0
Number of cases with conductive deafness	14
Number of cases with perceptive deafness	17
Number of cases with mixed deafness	69
Average units of deafness shown by Western Electric 2B audiometer	R. 21.6; L. 20.52
Greatest loss of hearing shown by Western Electric 2B audiometer	R. 60½; L. 73½
Smallest loss of hearing shown by Western Electric 2B audiometer	R. 1-1/8; L. 1-1/5

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MILWAUKEE—JULY 24-29

Current Osteopathic Literature

Abstracted by Edward S. Gardiner, D.O.

THE COLLEGE JOURNAL, KANSAS CITY, MO.
17: 65-96 (March) 1933

Only to Those Practicing Obstetrics and Gynecology. Margaret Jones.—p. 70.
*Strangulated Ileus. G. J. Conley.—p. 75.
*Dermatology. Infantile Eczema. Annie G. Hedges.—p. 79.
Significance of Urinalysis. J. L. Jones.—p. 80.
The Diet in Arthritis. W. J. Deason, Wichita, Kan.—p. 86.
Physical Therapy as an Adjunct to Osteopathic Practice.—I. F. Hooper, Goodland, Kan.—p. 86.

Strangulated Ileus.—Massive and serious pathology may be present in strangulated ileus with only a minimum of symptoms. Conley stresses the value of early exploratory incision in the presence of severe colicky pain in the abdomen, or obdurate belly rigidity in those cases where it is difficult to obtain an adequate history. A strangulation of a gut that has existed forty-eight hours ends in a fatality—no matter what is done—where it is done or who does it. Conley describes a case of strangulated ileus which showed the necessity of quick surgical interference without waiting for symptoms to develop which would make a positive diagnosis possible. Proper treatment is more necessary than diagnostic accuracy, if one or the other is to be denied the patient, although the procedure of exploratory incision should be the exception rather than the rule, and "it should never compensate for a sluggish mentality nor should it supersede diagnostic acumen."

Eczema.—Infants and children are especially susceptible to this disease, according to Hedges, the typical location affected being the flush areas of the face. The etiology of the infantile type is usually some digestive trouble. An examination of the stools will show in the moist types an excess of fats and sugars, and in the dry types, an excess of starch. It is often associated with rickets, scurvy, and other deficiency diseases. Spinal lesions may be a factor. It is being more and more considered to be an allergic process. The almost universal tendency to itching and the multiform eruption aid in diagnosis. Eczema may be superimposed upon another dermatosis. Eczema is not primarily due to the action of bacteria but may become infected. In the treatment, the greatest consideration should be given to diet. The diet, whether bottle or breast, should be low in fat and sugar, although the baby should not be undernourished. Abundance of water with citrous fruits should be given. Specific lesions should be corrected, and general manipulative work should be given as well. The bowels should be kept open. Sunlight and fresh air are important. Local cleanliness is important, and the child should be prevented from scratching by keeping the fingernails trimmed, wearing mittens, etc. Cleansing may be accomplished by using wet dressing of boric acid or olive oil to which has been added ½ per cent phenol or 2 per cent ammoniated mercury. Crude coal tar preparations are sometimes curative.

THE JOURNAL OF OSTEOPATHY, KIRKSVILLE, MO.
40: 100-138 (March) 1933

Laughlin Hospital Case Reports. E. T. Newell, Kirksville.—p. 102.
*The Philosophy of Osteopathy. C. P. McConnell, Chicago.—p. 105.
Report of the American Osteopathic Foundation. S. V. Robuck, Chicago.—p. 110.
The Osteopathic Clinic at the Cabbage Patch Settlement. Fern Marshall, R.N., Bandeen Hospital, Louisville, Ky.—p. 112.
Preventive Medicine. T. H. Hedgpeth, St. Joseph, Mo.—p. 121.
Malpractice. C. E. Abegglen, Walla Walla, Wash.—p. 119.

Philosophy of Osteopathy.—The nervous system is the great coördinator of the body, McConnell says. "Its highly differentiated properties and its comparatively feeble power of regeneration when damaged demand that nutritive supply be sufficient and flow of impulse uninterrupted." It is an important feature of the art of osteopathy to harmonize any malrelations of organic activity and the nerve pathways.

THE WESTERN OSTEOPATH, LOS ANGELES
27: 1-24 (Feb.) 1933

*Ramifications of the Study of Cancers. Louisa Burns, Baldwin Park, Calif.—p. 7.
The Endocrines in Gynecology. Harriet L. Connor, Los Angeles.—p. 10.
Cataract as a Cause of Blindness. E. W. Davidson, Los Angeles.—p. 13.

Cancers.—No known species of animal is free from cancer, according to Burns, although certain strains and families may be immune. Animals are affected by nearly all the types of tumor found in human subjects, and they are located in about the same regions. Animals born wild show fewer neoplasms than those born in captivity. Under the heading of diet Burns says that vegetarian races of people seem to suffer less frequently from malignancy than do those who eat meat. A person whose daily diet lacks some necessary food factors may overeat of the foods at hand. The importance of normal fibrinolysis in preventing the development of cancer is important. Fibrinolysis was absent in series of malignant cases in laboratory animals and human subjects. Studies of developmental errors in laboratory animals seem to support the theories of Ribbert and Cohnheim that misplaced embryonic cells are the cause of certain types of malignant growths. Certain chemical agents such as coal tar, fumes of imperfect combustion of coal gas, gasoline, and antifreeze mixtures seem to exert a specific carcinogenic influence. Primary cancer of the lung has been reported several times in recent medical literature, and irritating fumes may have been the cause in these cases. Chronic irritation as a factor in the causation of cancers has been shown beyond question. Pressure initiates cell division in certain types of cells, hence under abnormal conditions a long-continued pressure may excite the cell division to the extent that it becomes a malignancy. Toxemia may produce a serious irritative influence. The presence of abnormal sulphur compounds in the blood, due to intestinal putrefaction, has been considered an etiologic factor. Many articles have been written in an attempt to prove that certain geographical locations are more conducive to cancer. From a hereditary standpoint Burns is inclined to believe that cancer resistance may be a dominant trait in terms of Mendel's law. The lack of this trait permits, but does not compel, malignancy. A study of cancer leads into many fields such as dietetics, toxicology, climatology, biology, chemistry, social sciences, etc., and there are many problems still unsolved. A few cancers can be prevented, such as smoker's cancer, kangri burn, betel nut chewer's cancer, and those caused by peripheral irritations subject to our control. Fundamentally, the object of all methods of therapy is the same, that is, to destroy or injure the cancer cells without killing the patient. If the cancer cells are killed, the toxemia resulting from the presence of the dead cancer tissue cells may be severe. The lethal agents should not injure the normal tissues of the patient.

Current Medical Literature

Injury of Tissue by Local Anesthesia

G. Wolfsohn reviews some of the dangers in the use of local anesthesia in *Der Chirurg*, 4: 851 (Nov.) 1932, abstracted in *International Surgical Digest* for February, 1933. The widespread use of local anesthesia in rural districts, where anesthetists are not available, has resulted in many accidents that have never been reported, according to Wolfsohn. Three factors enter into the causation of tissue damage: (1) Chemicophysical irritation; (2) bacterial infection; (3) local circulatory disturbances. Chemical irritation is usually attributed to the anesthetic used. Novocaine is the superior anesthetic which is effective and harmless when used in the proper concentration and within the established quantitative limits (300 c.c. of ½ per cent to 50 c.c. of 2 per cent solution). Of all the new drugs introduced in recent years for deadening the mucous membranes, novocaine remains the agent of choice. Adrenaline should be used with caution especially when there is a tendency to vasoconstriction. Wolfsohn prefers isotonic saline for making up anesthetic solution, instead of distilled water. Physical irritation results sometimes from overdistention of the tissues with solution, especially in dense tissues such as the fingers and toes. Gangrene has resulted from the use of too much

solution. Chemical irritation may result from the skin anesthetic. A small quantity of wet iodine may be introduced with the needle and set up considerable irritation. Thermic injuries from hot solutions have been reported. The danger of infection is small as most solutions are properly prepared at the present time. Infections occur following both local and general anesthesia. The fear that most surgeons have of using local anesthesia in the vicinity of furuncles and abscesses is not well grounded. Local disturbances of circulation can occur with carefully prepared solutions, but injection is to be avoided when the part shows evidence of impaired nutrition. In operations where the blood supply is poor, local anesthesia in contraindicated, i.e. flap and plastic operations. Diabetes, arteriosclerosis, thrombo-angiitis obliterans are important contraindications to the use of local anesthesia. With a thorough knowledge of the indications and the contraindications for the use of local anesthesia it is a safe and valuable procedure.

ANTERIOR POLIOMYELITIS *(Continued from page 325)*

attempt to correct lesions; this was followed by lymphatic pump applied for five minutes. Treatment was given twice more during the day, with the lymphatic pump application increased five minutes each time.

December 30, 9 a.m. Temperature 99.4°; pulse 72; respiration 22. 10 p.m. Temperature 101°; pulse 80; respiration 22.

Patient did not complain of pain in back; osteopathic treatment with lymphatic pump increased to one-half hour; liquid diet instituted.

December 31. Temperature 100.6°; pulse 80; respiration 22.

Treatment continued as on previous day. Slight general improvement; voluntary bowel movement.

January 1, 1933. Temperature, 100.6°; pulse 80; respiration 22.

Same treatment continued. Tongue clear; patient less sensitive to light and touch.

January 3. Temperature 99°; pulse 80; respiration 22.

Osteopathic treatment twice this day. General improvement. Positive Babinski; ankle clonus present. Slight sensation present in legs.

January 4. Temperature 99°; pulse 80; respiration 22.

Patient sits up. Palpable mass present in left hypochondrium. Treated once this day.

From this date until January 13 there was no appreciable change, the temperature rising to 99° at least once daily. An x-ray plate on January 13 showed sharply outlined empyema on the right side. Expectant treatment was continued until January 25 with no bad effect; on this date the abscess was aspirated and two ounces of heavy pus removed.

From this time on recovery was uneventful. Lymphatic drainage was continued for ten days after aspiration. Full sensation has returned to legs and feet and patient walks normally. There is no discernible pathologic change in the heart or other organs.

Book Notices

THE HISTORY OF DERMATOLOGY. By Wm. Allen Pusey, A.M., M.D., L.L.D. Cloth. Pp. 223, with 33 illustrations. Price, $3.00. Charles C. Thomas, 220 E. Monroe St., Springfield, Ill., 1933.

In this brief summary a leading dermatologist, once president of the American Medical Association, sketches the history of dermatology (and of course to some extent of medicine) from early times, 5,000 years ago, until the present. He sketches it in nine chapters largely according to historical periods, beginning with ancient Egypt. The value of the book is greatly augmented by an extensive "Historical Index of Dermatology" through which one is referred to numberless sources in the literature.

THE INTERNATIONAL MEDICAL ANNUAL. A Year Book of Treatment and Practitioner's Index. Editors: Carey F. Coombs, M.D., F.R.C.P., and A. Rendle Short, M.D., B.S., B.Sc., F.R.C.S. Cloth. Fiftieth Year. Pp. 658. William Wood & Co., Mt. Royal & Guilford Aves., Baltimore, 1932.

Thirty-eight British physicians and surgeons reviewed the progress in the literature of medicine and surgery for a year. Their reviews are handily arranged in topical alphabetic order with crisp comments by themselves. It is interesting to read in the introduction that "one of the contrasts that is most striking between this volume of the annual and the earliest ones issued is that whereas they were largely occupied with recommending various drugs, it is difficult now to find much that deals with pharmacology. Its place is being taken by studies of physical treatment, of the use of organic extracts, specific sera, and so on."

This also is interesting: "Attention is again called to the danger of giving an aperient to patients with early appendicitis. Out of 131 cases of fatal peritonitis, all but seven had been given an aperient. In some American towns posters have been issued to warn against this practice, and pharmacists have been asked not to sell purgatives without mentioning that they are dangerous if pain is present."

As usual in the volumes of this article, one is interested in the amount of material in allopathic literature relating to low back pain, lumbosacral deformity, sacroiliac disturbances, and so on.

THE PRINCIPLES OF ORTHOPEDIC SURGERY FOR NURSES. By James Warren Sever, M.D. Cloth. Pp. 267. Price, $2.50. The Macmillan Company, 66 Fifth Ave., New York City, 1932.

This excellent book is based on the author's long experience in the Boston Children's Hospital and the Boston City Hospital. It gives in detail methods of examination for scoliosis. The use of heliotherapy is outlined, the use of the Drinker respirator, the method of muscle training under water in a properly equipped pool for anterior poliomyelitis, and muscle reëducation in spastic paralysis. The book will be of value to internes and practicing physicians as well as to nurses.

HARMONIOUS DEVELOPMENT OF WOMEN'S BODIES. By Alice Bloch, Directress of the Orthopedic Gymnastic Institute "Alice Bloch" Stuttgart. Translated from the sixth German edition by Mathias H. Mackerey. Pp. 136. Price, $3.00. Ray Long & Richard E. Smith, Inc., 12 E. 41st St., New York City, 1932.

The book contains an assortment of exercises varied enough to meet the needs of almost any woman. Photographs of Miss Bloch's students make even clearer the excellent explanations of the exercises, so that many of them can be practiced easily without expert instruction. There is a chapter also on deformities with advice as to the prevention and cure of spinal curvature and other deleterious conditions.

PROCEDURE IN TUBERCULOSIS CONTROL FOR THE DISPENSARY, HOME AND SANATORIUM. By Benjamin Goldberg, M.D., F.A.C.P., F.A.P.H.A. With a chapter on Sanatorium Planning by Thomas B. Kidner and an introduction by David J. Davis, M.D., Ph.D. Cloth. Pp. 373, with 54 illustrations. Price, $4.00. F. A. Davis Co., 1914-16 Cherry St., Philadelphia, 1933.

Out of his experiences as medical director of the Chicago Municipal Tuberculosis Organization, Dr. Goldberg draws material for this compact text which discusses tuberculosis problems from various standpoints including those of race and of legislation. The first section of the book treats many aspects of dispensary organization and service, social service, education and publicity. The second takes up home treatment, including heliotherapy. The third, comprising twenty-two chapters, takes up sanatorium organization and its service. There is a considerable bibliography.

THE pH IN COLONIC THERAPY. By B. R. LeRoy, Jr., A.B., D.O., (V. E. LeRoy, D.O., and Mark Bauer, D.O., collaborating). Cloth. Pp. 331. Illustrated. Price $5.00. The Fidelity Publishing Company, Fidelity Building, Tacoma, Wash. 1933.

Dr. LeRoy is an osteopathic physician and was formerly an instructor in chemistry in the American School of Osteopathy. He previously published "Practical Colonic Irrigation."

This new volume is in answer to a demand from physicians for more complete information concerning some methods of diagnosis and treatment, more particularly in respect to the colon.

The book is easy to read. It describes the rise of certain modern methods in treating the colon, discussing the physiology and bacteriology of that organ. Methods of determining the pH of the stool are described in practical terms, colon therapy of several types described and indications for each suggested. Dietary measures receive careful attention.

Various forms of colonic irrigation are detailed. Gallbladder drainage (non-surgical) is covered. Various instruments and appliances are illustrated and their uses described.

A final chapter on proctology is interesting.

The book is of use not only to those who turn their practice chiefly to the colon and rectum but most of it is useful to the general practitioner. No mention of the place of the osteopathic lesion in colon pathology was found on a fairly careful examination of the book.

R. C. Mc.

THE NATURE OF HUMAN CONFLICT. By A. R. Luria. Cloth. Pp. 431. Price, $4.00. Liveright, Inc., 61 W. 48th St., New York City, 1932.

This book contains a profound discussion of experimental psychology. It is not one to be read for pastime; yet even one to whom the nomenclature would be too difficult, would have the feeling of reading a discussion by a man who knows his subject thoroughly.

One is impressed with the whole book as exemplifying the author's statement that, "In all these investigations, upon which an enormous amount of labour has been spent, we have to admit that the results are not uniform, and the symptoms of the affective states and their structure are very differently described by different authors."

It is significant that Jung, who is quoted so freely as final authority, says in "Two Essays on Analytical Psychology": "But the experimental psychology of today does not even begin to offer any connected insight into the most important psychic processes; this is not its aim. Its aim is as far as possible to isolate simple and elementary processes which belong essentially to the domain of physiology, and having isolated, to study them. The infinitely variable and changing elements of the individual psychic life are altogether distasteful to it; and for this reason its findings and its facts are essentially detail, lacking organized cohesion. The man therefore who would learn the human mind will gain almost nothing from experimental psychology. Far better for him to put away his academic gown, to say good-bye to the study, and to wander with human heart throughout the world. There, in the horrors of the prison, the asylum and the hospital, in the drinking-shops, brothels, gambling hells, in the salons of the elegant, in the exchanges, socialist meetings, churches, religious revivals and sectarian ecstasies, through love and hate, through the experience of passion in every form in his own body, he would reap richer store of knowledge than text-books a foot thick could give him. Then would he know how to doctor the sick with real knowledge of the human soul. But he may be pardoned if his respect for the 'corner stones' of experimental psychology is no longer excessive.

"For between what science calls psychology and what the practical needs of daily life demand from 'psychology,' there is a great gulf fixed." (p. 2.)

The book has value in proportion to the objective of the one reading it. If the object is purely academic, the book is admirably written; if one's object is to aid in the solution of psychic problems, then one would find it necessary to seek some other course in addition to that pointed out by the book.

ANNA MARY MILLS

SEXUAL FEELING IN WOMAN. By G. Lombard Kelly. Cloth Pp. 264. Login Bros., 1814 W. Harrison St., Chicago.

This book is constructive reading, constructive if for no other reason than that it shows that men and women are beginning to think and allow themselves to be informed openly along lines of sexuality. We are getting away from the idea that if any thought is given to sex it is a sign that one has become perverted and thinks of nothing else.

The chapters dealing with the anatomy of the female generative organs are clear and simple and would be an admirable guide for the uninformed on the subject.

It is unfortunate that in dealing with woman's sexual feeling the author conveys the impression that his conclusions are based on traditional ideas and older material. In order to come up to the standard of the rest of the book, these chapters should show authority based upon work with actual case records. The author has not had access to as many of these as he considers desirable, and as a consequence, the reader is left with the feeling that the author is not sure of his own conclusions. He does not leave one with a sense of security, as does Ellis.

The book is interesting and easy reading and handles many phases of the sexual life of woman which are only too little studied and understood. It is another instance of a move in the right direction—a case of facing facts. This statement by the author shows this to be true: "Poetry and art without sexual foundation would amount to very little."

The last half of the book is worthy of close attention. It shows balance and careful conclusions. The book also contains a most valuable glossary, including terms for which it is most difficult to find definitions elsewhere.

ANNA MARY MILLS

FACTORS IN THE SEX LIFE OF TWENTY-TWO HUNDRED WOMEN. By Katherine Bement Davis, Ph.D. Cloth. Pp. 430. Harper & Brothers, 49 E. 33rd St., New York City.

The material in this book was obtained by questionnaires sent to university women.

The questionnaire covers almost every conceivable point that could be associated with sexuality. All of this information has been obtained for statistical purposes and can serve as a working basis of inestimable value to students and writers as well as to physicians and psychologists who are attempting to solve human problems and to associate situations and problems with possible sexual connections.

The book makes no attempt to answer the problems, being intended only to give the fundamental information through statistics and case reports. The answers would of necessity be worked out in the specific case. A reader might be misled by the answers whose writers say that they have no sexual problems, for sexual problems when unconscious do not necessarily manifest themselves in a sexual way. They may mask themselves and take some other form.

Subject matter so handled is a most encouraging thing for it is another indication that people are recognizing the fact that sexuality is a factor which must be considered in human problems and that it can be handled by intellectuals, not as something which has been dragged in but as a factor important enough to be dealt with as an integral part of the whole.

ANNA MARY MILLS

A SHORTER ORTHOPEDIC SURGERY. By R. Brooke, M.S., F.R.C.S. Cloth. Pp. 150. William Wood & Co., Mt. Royal and Guilford Aves., Baltimore, 1932.

If the scientific content of the book is no better than its grammatical construction (beginning with the first sentence in the publishers' introduction and going on through), it is too bad.

But if we wish to look into the scientific content we will see "the . . . least common injury (to the spine) is a sprain; the most common, a fracture or a fracture dislocation." (p. 113.)

MEDICAL CLINICS OF NORTH AMERICA. (Issued serially one number every other month.) Vol. 16, No. 4. (Boston Number, January, 1933.) Cloth. Octavo of 256 pages with 33 illustrations. Price, $16.00 a year. W. B. Saunders Co., West Washington Square, Philadelphia, 1933.

This is the Boston number and contains 27 papers on the usual varied interests handled in the publication.

THE YOUNGEST OF THE FAMILY. By Joseph Garland, M.D. Cloth. Pp. 196. Price, $2.00. Harvard University Press, Cambridge, Mass., 1932.

In general a good sane book of instructions to mothers. The writer is extremely positive as to the benefits of artificial immunization against smallpox and diphtheria. There seems no doubt in his mind as to the unfailing accuracy of the Schick test and the universal harmlessness of inoculation.

Conventions and Meetings

Announcements

American Osteopathic Association, Milwaukee, July 24-28.

American Osteopathic Society of Ophthalmology and Otolaryngology, Milwaukee, July 19-22.

American Osteopathic Society of Proctology, Milwaukee, July 24-28.

American College of Osteopathic Surgeons, St. Joseph, Mo.

Arkansas state convention, Pine Bluff, June.

California state convention, Oakland.

District of Columbia convention, Washington, May.

Eastern states convention, New York City, March 25 and 26.

Florida state convention, St. Petersburg.

Indiana state convention, Anderson.

Kansas state convention, Larned, October 5, 6.

Michigan state convention, Lansing, October.

Middle Atlantic states convention, Lynchburg, Va.

Minnesota state convention, St. Paul, May 5 and 6.

Missouri state convention, Springfield, October.

Montana state convention, Glendive.

New England states convention, Boston, May 5 and 6.

New Mexico state convention, Albuquerque, September.

New York state convention, Syracuse, October.

Ohio state convention, Toledo, May 14-16.

Oklahoma state convention, Oklahoma City, April 11 and 12.

Pennsylvania state convention, Harrisburg, May 12, 13.

Tennessee state convention, Nashville, May.

Texas state convention, Galveston, May 4-6.

Vermont state convention, St. Albans, October.

Virginia state convention, Richmond.

CALIFORNIA

Citrus Belt

A meeting was held at Ontario, February 9. Wayne Dooley of the Los Angeles college spoke on "The Pathology of Obstetrics."

Glendale

Lucille Van Velzer, secretary, reports that at the February 6 meeting William W. W. Pritchard spoke on "Steady Pressure for Thirty Seconds or Longer on the Suboccipital Triangle." L. E. Dean was the program chairman for this meeting.

At the February 20 meeting motion pictures were shown by the Petrolagar Company on "Cardiac, Vasomotor, and Respiratory Phenomena." J. E. Eckles was program chairman.

Hollywood Luncheon Club

At recent meetings Edward B. Jones spoke on "The Relation of the Physician to Venereal Problems," and James Gibson spoke on pelvic conditions. Adam Hummell was also a recent speaker.

On February 14, John E. Rogers, Chairman of the Department of Professional Affairs, spoke on "Standards of Education."

Pasadena

A meeting was held on February 16 at which the president, J. Strothard White, presided. A. V. Kalt, program chairman, introduced the speaker, Louis C. Chandler, who spoke on heart diseases. His talk was illustrated with motion pictures. James Long gave a report of the work done at the Altadena Hospital.

San Francisco

Phillip V. Aaronson, publicity chairman, reports that a meeting was held on February 24. Thomas Ashlock, Palo Alto, spoke on "Splenotherapy." Lily G. Harris spoke on legislative matters.

COLORADO

State Association

The February 19 meeting was held at Loveland with the following program: T. C. Wilmoth, "Principles of Prescription Writing"; James I. Morris, "Outpatient Clinic, Rocky Mountain Hospital"; H. S. Dean, "Personal Requisites for Success in Professional Work"; U. S. G. Bowersox and L. B. Overfelt, "Osteopathic Technic."

The March 18 meeting was held at Red Rocks.

IDAHO

Boise Valley

F. H. Thurston, Boise, reports that a meeting was held at the home of L. D. Anderson, Boise, February 16. R. E. Cochran presented a clinic case of glandular dysfunction. Dr. Thurston spoke on some personal observations relative to flu.

ILLINOIS

State Association

The annual meeting of the Illinois Osteopathic Association was held at Springfield March 1 and 2. Instruction in technic was given by members of the faculty of the Chicago college. The didactic portion of the program included the following: George M. Laughlin, "Hypertrophy of the Prostate"; R. C. McCaughan, "Trends of Economics of Practice"; W. D. Craske, "Diagnostic and Constitutional Aspects of Hyperthyroidism"; A. G. Hildreth, "Old Time Fundamental Technic of the A. T. Still Type"; J. S. Denslow, "Functional Diseases of the Gastro-Intestinal Tract"; S. V. Robuck, "The Hypertensive Heart." R. N. MacBain, "Principles of Osteopathy." Dr. Hildreth was the principal speaker at the banquet. Other speakers included: H. B. Sommerville, Sylvia R. Overton, C. O. Casey and May Walstrom.

Officers were reëlected as follows: President, W. S. Fuller, Bloomington; vice president, Martin C. Beilke, Chicago; secretary-treasurer, R. B. Hammond, Rockford; president-elect, to take office next year, Robert Clarke, Chicago.

Chicago—West Side

The February meeting was held on the 18th at the residence of B. W. Gutheil, Oak Park. J. Stedman Denslow of the Chicago college discussed osteopathy in respiratory conditions.

Chicago—City Association

The March 9 meeting was sponsored by the women members of the association, who presented a play in which a number of osteopathic physicians of Chicago were impersonated and information given as to the history of the Osteopathic Women's Club of Chicago, the O.W.N.A., and the place of women in organized osteopathy.

INDIANA

Indianapolis

At the February 3 meeting W. A. Schwab, Chicago, spoke on "Low Back Pain." His lecture was illustrated with motion pictures.

St. Joseph Valley

The February 16 meeting was held at Elkhart. W. D. Craske, Chicago, spoke on "The Clinical Diagnosis and Differentiation of Hyperthyroidism."

A special meeting was held February 28 in the offices of C. K. Parker, South Bend, to authorize a reduction in fees. It was also announced that plans were under way to offer osteopathic services to persons unable to pay at this time.

IOWA

Tri-County

Paul O. French, Cedar Rapids, secretary, reports that a meeting was held at Washington, February 16. John M. Woods of the Des Moines Still College faculty gave an excellent talk on cardiac conditions. Legislative matters were discussed. The meeting was well attended.

Wapello County

A meeting was held in March at the offices of G. W. Loerke, Ottumwa. Ethel L. Becker, Ottumwa, gave a paper on "Influenza and Its Complications."

KANSAS

Arkansas Valley

The February 23 meeting was held at St. John. W. J. Deason spoke on "Thermogenic Therapy"; H. C. Wallace, "Transurethral Prostatectomy"; and Raymond L. DeLong spoke on organization matters.

Central Kansas

Charles C. Boyle, Bennington, secretary, reports that the February 16 meeting was held at McPherson. Quintos

W. Wilson, Wichita, gave a talk on "Endocrinology." W. J. Deason also spoke. A number of visiting doctors from Wichita were present.

At the March 16 meeting at Minneapolis, "Dan's Decision" was scheduled to be shown.

Southern Kansas

K. A. Bush, Harper, reports that a meeting was held at Kingman, February 14. A number of guests from Wichita were present. Quintos W. Wilson, Wichita, spoke on the newer operative procedures of the prostate, and R. R. Wallace, Caldwell, spoke on the treatment of female pelvic infections.

The next meeting was scheduled for Norwich.

Southwest Kansas

The regular monthly meeting was held at Garden City, February 14, in the offices of F. C. Tabler. C. M. Noll, Scott City, spoke on "Chronic Joint Disease," and V. A. Leopold, Garden City, spoke on "Depression Finance."

Topeka

Genevra E. Leader reports that the Topeka association entertained the members of the Kansas state board at a meeting held February 16. The applicants for registration were also present. W. S. Childs, Salina, spoke on "Stabilizing Osteopathy." Representative Rolly W. Freeland of Effingham was a guest.

Wichita

The following program has been scheduled for Clinic Day, April 13: R. C. McCaughan, Chicago, "Osteopathic Organization," "The Routine of Diagnosis," "Economic Side of Practice," "Osteopathy as a Career" (student recruiting talk); C. R. Lambert, "Puerperal Infection"; S. H. Nolen, "Anesthesia."

MAINE

Central Maine

Olga H. Gross, Pittsfield, reports that the February 6 meeting was held at the home of William Clare and Nora R. Brown, Waterville. Dr. Gross read a paper on "Conquering Arthritis." Plans were made to hold the annual free clinics in March at Waterville, Madison, and Pittsfield.

MASSACHUSETTS

State Association

The following committee chairmen should be added to the list of officers of the state association which appeared in the February JOURNAL: Membership, William T. Knowles, Boston; professional education, Harold P. Frost, Worcester; hospitals, Gervase C. Flick, Boston; ethics, M. T. Mayes, Springfield; student recruiting, Gordon W. Barrett, Pittsfield; public health and education, Dr. Frost; industrial and institutional service, Paul Norris, Lynn; publicity, Dr. Norris; convention program, Charles W. Wood, Holyoke; convention arrangements, Myron B. Barstow, Boston; legislation, Charles R. Wakeling, Boston; professional development, Frank M. Vaughan, Boston.

Essex County

A meeting was held at Salem, February 27. Myron W. Barstow, Boston, spoke on "Osteopathic Technic." The annual birthday appeal to support a free children's clinic at the Massachusetts Osteopathic Hospital was announced as to be held March 5-12.

Norfolk

Laurence M. Blanke, Dedham, reports that a dinner-meeting was held February 1 at Dedham. The technical session was held in the offices of Dr. Blanke. The following program was given: Gervase C. Flick, Boston, "What the General Practitioner May Expect of the Radiologist"; Samuel Allen, Hyde Park, "Some Observations Regarding Osteopathic Findings in Hypotension"; A. H. MacLeod, Roslindale, and George E. Cox, Hyde Park, "Cervical Technic."

MICHIGAN

State Association

A regular meeting of the officers and trustees was held at Detroit, January 8. Legislative matters were discussed.

Battle Creek

At the February meeting Don D. Barker read a paper on "Tubercular Peritonitis." Betsy B. Hicks, president, presided.

Flint

At the January 12 meeting, new officers were elected as follows: President, E. E. Congdon; vice president, P. W. Stewart; secretary-treasurer, E. R. Smith. The new president has drawn up a schedule of meetings up to July. These will be held the second and fourth Thursdays in each month.

Dr. Stewart spoke at the February 9 meeting on "The Treatment of Varicose Veins and Ulcers."

Western Michigan

The regular monthly meeting was held at Grand Rapids, January 19. M. D. Warner, Grand Rapids, spoke on "Some Comments on Clinical Observations." L. Verna Simons, Grand Rapids, gave a report of a trip to the Locke clinic at Williamsburg, Ont.

MISSOURI

Buchanan County—St. Joseph

R. R. Reynolds, Maysville, spoke at the February 8 meeting.

H. H. Husted spoke at the February 15 meeting on "Longevity and the Prevention of Disease."

T. H. Hedgpeth and R. L. Smith gave a symposium on open hospitals at the February 22 meeting.

Central Missouri

H. A. Gorrell, Mexico, reports that the February 16 meeting was held at Columbia, at the Hardy Osteopathic Clinic, with the following program: J. H. Hardy, Columbia, "The Tubes of the Body"; L. B. Lake, Jefferson, "Legislation"; R. B. Baize, Laddonia, "Tubal Pregnancy."

Kansas City

H. C. Wallace, Wichita, spoke before the Kansas City society on February 21.

O. P. Grow, Queen City, was scheduled to speak at the March 14 meeting.

A children's health conference and clinic, conducted by the Kansas City society, will be held at the Hotel Baltimore, April 4-6. Ira W. Drew, Philadelphia, will conduct some of the clinics, and lecture on children's diseases.

Northwest Missouri

The February 9 meeting was held at Maryville. M. L. Hartwell, St. Joseph, spoke on "Observation, Research and Conclusions." R. R. Reynolds, Maysville, president, discussed the program and plans for the coming year.

At the March 9 meeting: A. G. Hildreth, Macon, spoke on "Saving Taxation Money by Curing the Insane."

West Central

The February 23 meeting was held at Odessa. After the banquet, Mr. Iightner, mayor of Odessa, entertained the group with stunts and sleight-of-hand performances. Charles A. Povlovich, of the Lakeside Hospital, Kansas City, spoke on "Laboratory Diagnosis." C. F. Warren, Marshall, newly elected president, appointed J. K. Coles, Lexington, as chairman of the program committee.

The next meeting will be held at Clinton, March 23.

NEBRASKA

Lincoln

A meeting was held February 23. Anton Kani, Omaha, presented several reels of motion pictures of a medical nature.

NEW JERSEY

State Association

Chester D. Losee, Westfield, secretary, announced a meeting for March 11. Legislative matters were to be discussed by Drs. Morris, Smith and Hazzard.

The following program was scheduled: Fred W. Morris, Ridgewood, "Technic"; J. Francis Smith, Philadelphia, "Some Neurological Aspects of Osteopathy"; Charles Hazzard, New York City, "Some Experiences in Osteopathy."

Passaic County

The February 28 meeting was held at Paterson, at the home of Margie D. Simmons. Dr. Simmons spoke on "How Osteopathic Physicians Give Power to the Heart." Le Roy F. Archbold, Paterson, told of his trip to Dr. Locke's clinic. John A. Atkinson, Montclair, spoke on "The Progress of Osteopathy in New Jersey." C. W. Potter, Passaic, gave clinical demonstrations of the treatment of colds and catarrhal conditions.

Southern New Jersey

The February meeting was held at the home of Carl and Mrs. Fischer, Woodbury. Earl Miller, Bethlehem, Pa., spoke on "The Lymphatic System" and "The Lymphatic Pump in the Treatment of Acute Infectious Diseases." He gave practical demonstrations assisted by George T. Hayman, Doylestown, Pa.

The March meeting was scheduled to be held at Moorestown. Rebecca C. Lippincott, Moorestown, was to speak on "The Bates System in the Treatment of the Eyes."

NEW YORK

Central New York

The March 8 meeting was held at Syracuse. Committees were appointed to prepare for the convention of the New York state osteopathic society at Syracuse next October, as follows: General chairman, F. C. Humbert, Syracuse; program, A. Z. Prescott, J. H. Finley, Syracuse, and J. R. Miller, Rome; exhibits, C. W. W. Hoffman, T. T. Bassett, A. S. Prescott, and F. I. Gruman, Syracuse; public relations, J. W. Johnston, and P. H. O'Hara, Syracuse; banquet and entertainment, Elizabeth Parsons, Mary E. Albee, and W. G. Connor, Syracuse.

Rochester District

Edward L. Spitz-Nagel, secretary, reports that a meeting was held at the home of Irene K. Lapp, March 1. The program consisted of a symposium of the newer methods of osteopathic technic and practice. Papers were read by Drs. Williams, Vaughan, Norfleet, Lapp, Matens, Beal, Elwell, Breitenstein, Camp, Heech and Reed. A report of the present legislative situation in New York was discussed by Dr. Spitz-Nagel. Light refreshments were served at the close of the meeting.

OHIO

Akron District

A meeting was held at Canton, March 1. N. A. Ulrich, Kent, spoke on "An Osteopathic Method of Handling Otitis Media."

Central Ohio

At the February 9 meeting C. H. Benson, M. D., Columbus, spoke on "Treatment of Pneumonia by Surgical Methods."

At the March 9 meeting Charles L. Ireland, M. D., Columbus, spoke on "Electrical Energy."

Dayton District

The March 1 meeting was scheduled to have the following program: C. B. Gephart, Dayton, and R. A. Van Vleck, Bellefontaine, "Parental Care and Normal Delivery"; Helen Ream, Springfield, "Gynecology from an Endocrine Standpoint."

OKLAHOMA

Eastern Oklahoma

R. B. Beyer, Checotah, secretary, reports that he was host to a meeting at the Masonic Hall of his city, February 23. The following program was given: A. F. Rowson, Okmulgee, "Traumatic Meningitis"; H. E. Beyer, Weleetka, "Psoriasis"; S. B. Williams, Henryetta, "Epilepsy"; R. B. Beyer, Checotah, "Epilepsy and Eczema."

The March meeting was held at Eufaula.

State Association

Officers of the state association met at a dinner-meeting in the Skirvin Hotel, Oklahoma City, February 23, to discuss the program for the state convention to be held at Oklahoma City, April 11 and 12.

Kay County

A meeting was held at Tonkawa, February 17. A round table discussion of fractures was held in the offices of Donovan O'Connor, (K. C. O. S. '32).

D. A. Shaffer, Ponca City, reports that a meeting was held at Blackwell, March 9. Following a dinner, a meeting was held in the offices of Paul Harris. The ladies were entertained in the home of C. D. Ball. F. C. Davis, Tonkawa, led a round table discussion on obstetrics. The state president, Dr. Ball, discussed the program of the Oklahoma state convention to be held at Oklahoma City, April 11 and 12. Plans were made to have H. G. Swanson, dean of the Kirksville college, appear before the various civic clubs in Kay County.

The next meeting will be held at Ponca City, April 6.

PENNSYLVANIA

State Association

The annual meeting of the Pennsylvania Osteopathic Association will be held at Harrisburg, May 12 and 13. Ralph L. Fischer, Philadelphia, announces that the program will be devoted to two general phases of professional problems: Economic and general diagnosis and treatment. The Harrisburg Osteopathic Clinic will furnish an ample number of patients for clinical demonstrations. R. C. McCaughan, Executive Secretary of the A. O. A., will talk on certain economic phases of practice.

Lehigh Valley

A meeting was held at Bethlehem, February 16. Charles E. Mills, Stroudsburg, president, presided. At the conclusion of a business session, R. R. Francis, Bethlehem, a chiropodist, spoke on "Dermatological Lesions of the Foot."

RHODE ISLAND

State Association

Mary C. Mowry, Providence, secretary, reports that the January 12 meeting was held at the Rhode Island Osteopathic Hospital, Cranston. Anne Wales, Providence, spoke on "Hospital Organization." The February 9 meeting was held at the same place. Richard Dowling, Newport, spoke on "Electrocoagulation of Tonsils."

TEXAS

Dallas

At the February 9 dinner-meeting Dr. H. L. Pritchett, professor of sociology of the Southern Methodist University, spoke on "Occupational Neuroses." Several musical numbers were given. Louis H. Logan was program chairman.

Lower Rio Grande Valley

The February 25 meeting was held at Harlingen. The business session was held in the offices of Charles H. Chandler, and the following program was given: W. E. Davis, McAllen, "The Beginning of Osteopathy"; M. C. Burrus, San Benito, "Professional Ethics"; A. L. Kline, Mercedes, "Brachial Neuritis"; Jacobine Kruze, San Benito, "Measles, Diagnosis and Treatment"; Amorette Bledsoe, Brownsville, "Treatment of Eyestrain and Headaches." Dr. Chandler was in charge of the program.

The next meeting will be held at the home of Mabel Martin-Gwillim, Weslaco, March 25.

Panhandle Society

The February 11 meeting was held at Amarillo. John E. Rogers, Chairman of Professional Affairs of the A. O. A., spoke on "Osteopathic Education." Dr. Rogers was en route to Los Angeles to inspect the Los Angeles college.

WASHINGTON

King County

At the February meeting at Seattle, Griffith H. Parker, Seattle, spoke on "Highlights of Public Speaking." Dr. Parker was formerly an instructor in public speaking and dramatics at the Colorado State college.

Seattle

The Seattle group meet informally for lunch each week on Wednesdays at 12:15 at the Laura Ann Coffee Shoppe, 628 Union Street. Out-of-town visitors are cordially welcome to attend.

Yakima Valley

The March 4 meeting was held in the home of Vernon E. Holt, Yakima. A "no-host" dinner was served, which was followed by a professional program. R. J. Lockwood, Yakima, was program chairman.

WEST VIRGINIA

Ohio Valley

A meeting was held at the Chestnut Grove Inn near Weirton, W. Va., March 2, with the following program: F. B. Dornbush, Steubenville, "Measles and Scarlet Fever"; Dr. Graham, "Injuries of the Ankle."

H. R. Pease, Steubenville, O., president, appointed a nominating committee for the election of officers which will take place at the April 6 meeting at Bellaire, O. The committee included the following: O. C. Titus, Moundsville, W. Va., Albert Graham, and T. V. Sullivan, Wheeling, W. Va.

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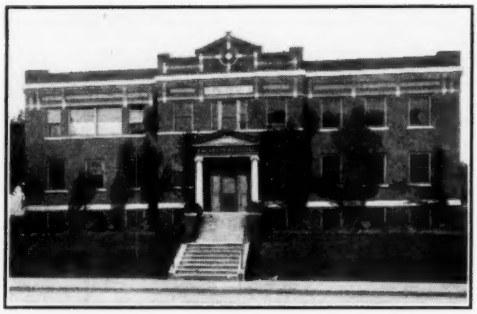

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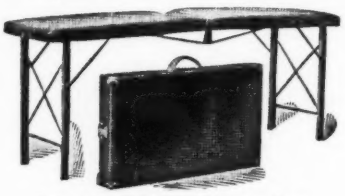

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Bilodeau, L. E., KCOS '33, located at 313-14 Trust Bldg., Sanford, Me.

Brett, Earle H., from Wollaston, Mass., to 280 Whalley Ave., New Haven, Conn.

Collins, Bruce S., from Los Angeles, to 1448 N. Gower St., Hollywood, Calif.

Cox, Harold R., KC '33, located at 133 N. Lawn St., Kansas City, Mo.

Crawford, F. M., from 1003 Southern Surety Bldg., to 426 Flynn Bldg., Des Moines, Ia.

Cunningham, E. Jane Letts, from 2730½ N. Saginaw St., to 566 E. Witherbee St., Flint, Mich.

Cushman, F. B., from Cedarhurst, N. Y., to 95 S. Grove St., Valley Stream, N. Y.

Davis, Milton A., KCOS '33, located at Box 355, Wagoner, Okla.

Dunleavy, Thomas P., from 172 N. Main St., to 162 N. Main St., Barre, Vt.

Fisher, Glenn E., DMS '33, located at 1076-21st St., Des Moines, Ia.

Gardner, Robert G., KCOS '33, located at 805 Bancroft Ave., Lansing, Mich.

Gilroy, S. B., KCOS '33, Tawas City, Mich.

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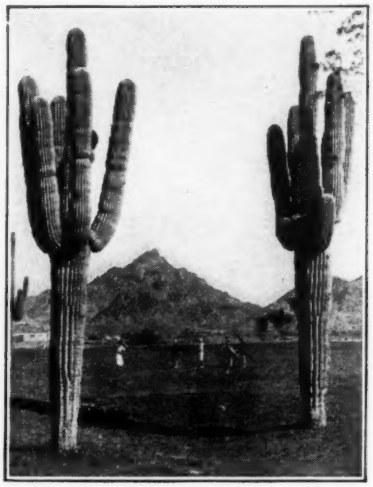

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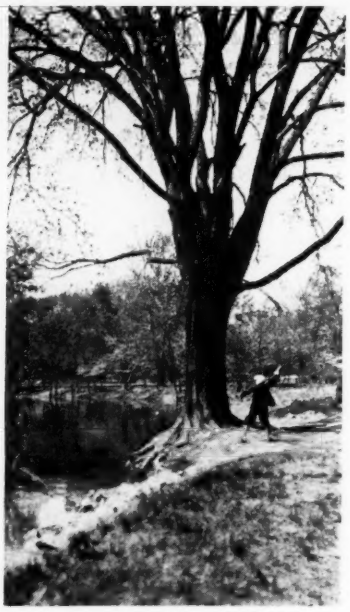

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